



INSIDE DOPE

by GEORGE F. TAUBENECK

Story of the Week
Gag of the Week
Set 'Em Up Quick, Steve
Details In Blue Denim
Invite Them to Open Your Door
Tell All
Great Idea

Story of the Week

Bob Casey, one of Chicago's all-time newspaper immortals, recalls in his book, "More Interesting People," the time a disgruntled headline writer captioned a story about an unmarried mother who had delivered her baby in a taxicab:

"ANOTHER EDITOR IS BORN."

Gag of the Week

The Communists are right about one thing, at least. They say that their economic system is the only one which is allergic to booms and busts.

And how right they are. It's always allergic to booms!

Set 'Em Up Quick, Steve

Portable houses, erected in as little time as one and one-half hours, and which can be easily rearranged to accommodate changing family needs, have now become a reality.

A two-bedroom home, complete with furniture, range, and refrigerator, to retail for about \$3,000 will be produced by Goodyear Rubber Co., for example.

Visualizing the possibilities of such a market, the more progressive manufacturers of pre-fabricated homes estimate the popular price for such mass-produced homes at a figure somewhere between \$1,700 and \$2,500 in the year 1950.

At this low cost, industrialists foresee an opportunity for every wage-earner to own a home.

Among the many designs being made for this type of housing is a 27-unit plan proposed by Norman Bel Geddes, which may be arranged in 11 different floor arrangements.

Another pre-fabricated home offered by Revere Copper & Brass, Inc., boasts a spacious 24-ft. living room. Presence of a dining room is optional by means of this floor-plan because it may be achieved by closing off one end of the living room with a flexible screen that disappears in the wall when not in use.

With a sufficiently large kitchen and two 9 x 12 bedrooms, the "Revere Home" structure provides six storage closets, 6-in. thick floors, floor-to-ceiling windows, and insulated, permanently-finished interior walls—all for less than \$2,000.

Easily disjoined into four vertical slices and weighing about four tons each, a TVA-designed house can be readily transferred from one site to another.

Each slice of the structure retains its original features—complete with light bulbs in their sockets—until assembled into place on the foundation and bolted together.

Another type of pre-fabricated house is composed of one-piece walls, butted in mid-section, rather than being joined to form corners. With all windows, doors, and accessories in place, the walls terminate in projecting ends on the outside, which may be utilized for wind-protected garden terraces, etc. These large units require special trucks provided with derrick hoists when removal is desired.

The "demountable" construction of the pre-fabricated houses should prove to be one of its most attractive features.

If the owner likes his location, but

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New Household Models Shown By Harvester

CHICAGO—First household refrigerators to be manufactured by the International Harvester Co. will be in the hands of I-H dealers in the very near future, the company announced last week.

Three 8-cu. ft. models—a standard, deluxe, and super deluxe—are now being turned out in quantity from the firm's Evansville plant, it was stated here.

They will be distributed through company owned branches from coast to coast and through wholesale distributors in Chicago, New York City, Boston, Detroit, and other large metropolitan areas, the company said.

The New York distributor, Bruno-New York, Inc., has stated that initial shipments to that organization will be placed in the hands of 200 of its dealers for sampling purposes only. Allocations of units to be delivered to customers will be based on the number of orders turned in by that particular dealer. Gerald L. Kaye, general sales manager, said he

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New Westinghouse Dryers and Water Heaters Ready

MANSFIELD, Ohio—A new automatic electric clothes dryer and a complete new line of electric water heaters for 1948 will be introduced by Westinghouse Electric Appliance Division during the winter market.

At the same time, Westinghouse will present new informative consumer labels which are to be used on all its appliances. Called "Tell-All Tags," they were designed to "sell while they tell" and are more easily read versions of the former labels.

A new feature of the company's exhibit this year will be a platform presentation of products and merchandising ideas. It will be staged in a "Westinghouse Appliance Theater" built adjacent to the showroom at the Furniture Mart.

This program will include a live talent show ("Sleep Luxury") promoting electric bed coverings, and a sales demonstration of the new dryer.

"The Westinghouse Appliance Theater—as well as the showing of regular appliances in the display room—is built around the idea of dramatizing the product by demonstration and showing the retailer how to go about doing the same thing in

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Program Started For Materials Allocations

WASHINGTON, D. C.—How voluntary allocation of scarce materials, authorized by the Taft anti-inflation bill signed by President Truman last week, are expected to operate, has been outlined by Commerce Department officials.

Government men indicated that the program to be developed for the steel industry would set the pattern for others.

Pending a meeting with 15 top ranking steel executives on Jan. 8 to draw up the actual program to be followed, Commerce department planners have developed the following tentative outline.

The steel industry will be asked to furnish figures on its total production capacity on all types of steel. Then producers of steel products, such as appliance manufacturers, will be asked to estimate their steel requirements.

With industry's estimated requirements and the expected needs of the

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Changed Cabinet Design Marks New Frigidaires

Prices Go from \$194.75 For 6 Cu. Ft. Model To \$299.75 for An '11'

CHICAGO—Featuring new space-saving and food storage improvements, the new 1948 "Bigger but Smaller" line of Frigidaire electric refrigerators is making its public bow at the opening of the Furniture Marts here.

Called the MJ line, the new four model series, in development since before the war, derives the term "Bigger but Smaller" from an increase of approximately 2 cu. ft. of storage space within almost the same exterior dimensions as previous lines.

Thus, a 6-cu. ft. model, company officials declare, occupies about the same space as the usual 4-cu. ft. model, the 7-cu. ft. model the space of a 5, the 9-cu. ft. model the space of a 7, and the 11-ft. model the space of a 9.

This increased space is accomplished by rearranging the compressor and its companion condenser and evaporator. Space formerly allotted to the mechanism has been transformed into an enlarged food compartment.

Suggested retail prices are \$194.75 for the 6-ft. model, \$229.75 for the 7-ft. model, \$269.75 for the 9-ft. model, and \$299.75 for the 11-ft. model. Quantity deliveries are already under way.

The new models retain basic Frigidaire features and add some new ones, including a full-width hydrator.

The problem with a full-width hydrator has been that it was hard to slide in and out, it was stated. This has been overcome with the new Frigidaire hydrator which is mounted on roller bearings—two at the front attached to the cabinet and two at the rear placed on the hydrator. These roller mountings assure easy sliding with the heaviest loads.

This hydrator is finished in acid-resisting porcelain, holds from 21 to 26 quarts depending on the model, and is equipped with glass top. It is installed in the 7, 9, and 11-ft. models.

Each cabinet is made from a single piece of quality sheet steel and

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'47 Electrical Mfg. Establishes New Peak

NEW YORK CITY—The electrical manufacturing industry, on an all-out basis to fill an all-time record demand for electrical equipment and appliances, pushed production in 1947 to highest peacetime levels.

The total was 50% over 1946, passed the prewar peak year of 1941 by 40%, and eclipsed 1940 by 150%—while the comparable index for all manufacturing moved up 10% compared with 1946.

Every segment of the far-flung industry made impressive gains, led by the electric appliance divisions. These latter rolled up a volume more than double that of 1941 and a full 100% over 1946.

Despite a serious shortage in enameling steel and several other vital components, 3,750,000 electric household refrigerators were produced in 1947, it was estimated. This would outstrip 1946 by 67% and the 1941 all-time previous high by almost 10%. The 1948 output may reach 4,500,000 units, up 20% over 1947.

The electric farm and home freezer was cited as a new and important member of the major appliance

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ASHVE Meeting, Show Opens Feb. 2 In New York

NEW YORK CITY—Five technical sessions, including a symposium on the heat pump as used for year-round air conditioning, will feature the fifty-fourth annual meeting of the American Society of Heating and Ventilating Engineers to be held at the Hotel Commodore here Feb. 2 through Feb. 5.

The meeting will run concurrently with the Eighth Heating & Ventilating Exposition scheduled for Feb. 2 through 6 at the Grand Central Palace here.

Radiant heating will be the subject of another technical session with four papers to be presented covering various aspects of the topic.

First meeting of the society will get under way at 9:30 Monday morning, Feb. 2, with a business session followed by two papers—"A Method of Fire Control" by A. C. Bartlett, and "State Laws Concerning Industrial Exhaust Ventilation," by A. D. Brandt and K. J. Caplan.

A welcome luncheon is planned for

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Mills Industries Files Under Chandler Act

CHICAGO, Dec. 30—Board of directors of Mills Industries, Inc., manufacturer of refrigeration and vending machine equipment, stated today that because of the expanded activities of the company and because of excess investments it has been found necessary to file a provision under Chapter XI of the Chandler Act seeking extension for the payment of the company's debts, whereby all creditors would be paid fully over a period of four years at the rate of 25% per year.

Company officials said that the Federal Court had extended the opportunity to the company to continue its business in the usual way, under the present management. Liabilities of Mills Industries total approximately \$5,500,000. The secured creditors are owed approximately \$2,900,000 and the unsecured creditors are owed \$2,600,000. Total assets of the company are in excess of \$10,000,000, it was stated.

A representative of the company stated that the firm will continue to purchase its supplies from its usual sources and that such debts as may be credited will have priority of payment over the old unsecured debts.

Detroit Lubricator Alters Guarantee Policy on Valves

DETROIT—A revised repair and replacement policy on the line of expansion valves it produces for the refrigeration industry has been announced, effective Jan. 1, by the Detroit Lubricator Co.

The new policy provides for the replacement of defective valves through authorized wholesalers on the basis of a 90-day guarantee, and repair of defective valves through a manufacturer on the basis of a one year guarantee.

Refrigeration parts and supply wholesalers handling Detroit Lubricator products are authorized to replace from their stock any alleged defective valve turned in by a customer, providing the valve is not more than three years old. There may or may not be a charge for the replacement, depending on the date of manufacture of the particular valve. The policy applies only to new valves which have allegedly failed in the field during the guarantee period.

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G-E Reduces Its Prices 3-10% On Appliances

Wilson Asks Others To Join Movement In Fight on Inflation

NEW YORK CITY—General Electric Co. in a year-end announcement reduced from 3 to 10% the prices of a wide range of products, including many electrical appliances in high demand, and urged other companies to take similar action so it could reduce prices even further.

At the same time, G-E lowered prices of component parts which it supplies to other appliance manufacturers. Among these are fractional horsepower motors.

"We hope this will not be misconstrued as an attempt on the part of General Electric to reduce profits," said Charles E. Wilson, president, in announcing the price cuts.

"As we have pointed out repeatedly in recent months, our profit, running at a rate of 6.8 cents on the sales dollar, is less than one half the prewar rate and much lower than the normal safe rate which we believe is necessary in the operation of our business."

"Like most Americans, we have been increasingly worried at the progress of the inflationary spiral."

"It is our conviction and belief that voluntary action and self-restraint by individual citizens and companies can do most to reverse the tide of inflation. It needs to be reversed, not just stopped, and we hope and expect that others will join us so that materials and components purchased by us will be reduced in price and that even further price reduction may follow."

Product lines affected by the price reduction schedule include:

Electric refrigerators and ranges, self-contained air conditioners and water coolers, home radio and television receivers, oil and gas furnaces, home vacuum cleaners, automatic blankets, electric irons, automatic dishwashers, disposals.

Electric clocks, mixers, coffeemakers, grills, waffle irons, heating pads, fractional horsepower motors, ballasts

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Marts May Answer Three Big Questions

CHICAGO — Appliance men who will converge on the Winter Furniture Marts will be seeking the answer to three major questions that concern the immediate future of the industry—

1. Are appliance prices headed up or down? General Electric's announcement of price decreases should set up some interesting discussions.

2. What will 1948 bring in the way of new appliance models? Some of the first really new postwar designs will be seen in the 1948 lines.

3. In just what stage is the transition from the seller's to the buyer's market?

The buyers who converge on the exhibits at the American Furniture Mart and the Merchandise Mart here usually afford some barometer of demand, although it is not always an infallible one.

As usual, the big jam-up at the Marts will come in the first few days of the two weeks run (Jan. 5-17) although there is the possibility this year that the attendance may string out because of the desire of many of those attending to stay for the revived Housewares Show which will be held at the International Amphitheater Jan. 15-22.

Chicago hotels are sold out, at

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Appliances Stocked with Wax Fruits, Vegetables Look So Real That Customers Remember Dealer When Planning Purchases

ST. LOUIS—Possibly no appliance retailer in the country has made such extensive use of artificial foods in appliance promotion as has R. A. Guinner, head of R. A. Guinner Plumbing & Appliance Co. at 7242 Gravois Ave. here.

"Even the newest features of refrigeration, such as produce coolers, butter conditioners, sharp-freeze compartments, and the like, soon become 'old stuff' to the average housewife," Guinner smiled. "Therefore, we have to provide some extra interest."

"Our experience has been that most women get more kick out of the amazingly realistic artificial foods which we show than they do from the refrigerators themselves. This is all to the good, of course, since the chances are when the visitor starts thinking about buying a new refrigerator, she is bound to remember us."

When appliances became available in quantity, Guinner contracted with suppliers in California, New York, and Chicago to provide a \$200 inventory of artificial foods which simulate practically every item which is likely to be found in a housewife's larder. Included are items for every shelf in the refrigerator.

Thus, when a prospect pulls out a vegetable cooler she finds sparkling crisp celery, cabbage, cauliflower and carrots, which on closer examination turn out to be wax. In the fruit side are oranges, lemons, and limes, which are equally realistic.

On the shelves above are halves of



R. A. Guinner opens drawers of refrigerator produce cooler to show wax foods stored inside.

watermelon, sherbets, and custards frozen in glass cups, milk, cheese, butter, oleomargarine, and even eggs in cartons.

"The idea which has aroused the most attention is a simulated ice cream cake, which looks as though maraschino cherries and whipping cream was ready to run down the sides," Guinner grinned. "A lot of people, mostly children, believe it's the real thing unless we let them touch it."

Guinner carries the idea out over ranges, refrigerators, home freezers, and even small appliances. Every

appliance logically used in food service is stocked with artificial foods.

Being a retailer with a lot of faith in "stunt promotions," Guinner was the first appliance dealer in St. Louis to go into showy, extensive promotion ideas which called attention to the store. At the recent St. Louis County Fair, Guinner hired a light-plane pilot to fly back and forth over the fairgrounds, dropping thousands of throwaways which invited customers to visit the Guinner appliance display in the "Appliance Building" exhibit at the fair.

House Committee To Take Up Senate Credit Bill

WASHINGTON, D. C.—If the House Banking and Currency Committee approves any legislation at all for restoration of consumer credit controls, it will probably be a modified version of the bill passed Dec. 17 by the Senate, it is believed here.

The Senate-approved bill was referred to the House committee just before the special session of Congress was adjourned. This bill authorizes the Federal Reserve Board to reinstate restrictions on instalment buying through March 15, 1949.

But the House committee was reported to be opposed to the legislation. In view of this attitude, it is uncertain what action the group will take.

Another matter to face Congress when it reconvenes Jan. 6 is the scheduled investigation of the gray market in steel and other commodities in short supply.

New Furniture Orders Drop 11% from Oct.

CHICAGO—In dollar volume of new orders booked, shipments, and unfilled orders, the furniture industry in November was substantially ahead of the same month last year but was somewhat behind October, 1947, Seidman & Seidman, accountants for the industry, have reported.

The industry's record for the first 11 months of 1947 in these categories was 26 or 27% ahead of the first 11 months of 1946.

New orders booked in November were 42% ahead of November, 1946, but 11% below October. The respective figures for shipments were 22% and -12%, and for unfilled orders, 32% and -2%.

Home Freezer Benefits to Farmers Cited at Frozen Food Meeting In Buffalo

BUFFALO—Home freezers are proving a boon to farm folk, it was emphasized at the annual Frozen Food Meeting & Trade Show staged in Orchard Park Grange Hall by the Erie County Extension Service.

Farm wives soon may even be storing pies, cakes, and muffins in home freezers for church baked-goods sales, reported Mrs. Dorothy Cousens, extension specialist in home management at Cornell University.

Mrs. Cousens reported that a cost study of freezers of 4 to 20 cu. ft. showed that \$60 to \$100 yearly will cover cost, upkeep, and depreciation.

Prevalent high meat prices have increased interest in home meat production and freezers, declared George H. Wellington, assistant professor of animal husbandry at Cornell.

"Freezing is the best method to store meat for future use," Wellington said. "It allows farm people to utilize home-grown meats more efficiently."

"Freezing will also return meat more nearly to its taste when fresh than any other method of preservation. For those who prefer cured or smoked-meat flavor, these processes may and sometimes are performed before a freezing."

He listed as other advantages the convenience, elimination of hard work in canning, and satisfaction in production of meat of the quality desired.

Demonstrating meat-cutting methods, he said that standard methods are suitable but that extra bone may be removed and that all cuts must be wrapped in moistureproof paper before storing to prevent "freezer burn," or dehydration.

Micro-Wave System May Bring Network Video to Midwest

CHICAGO—Network television programs telecast by a micro-wave relay system may soon be possible for a wide area covering parts of four midwestern states.

Indication that such plans may be afoot stemmed from an announcement by Capt. William C. Eddy, director of station WBKB, that relay services would be utilized to bring television to additional communities.

Although no areas were specifically named, a television application was recently made for South Bend, Ind., and a similar application is now pending in Ft. Wayne. Other communities rumored to be under consideration as possibilities for the extension of the WBKB network are the Illinois cities of Rockford, Rock Island, and Moline; Davenport, Iowa; Toledo, and eventually, Cleveland, Ohio.

The micro-wave system of telecasting consists of a series of sending and receiving stations which relay electric signals from one to another by concentrated radio beams, Capt. Eddy explained.

FREEZER SENTRY



BUZZ-Z-Z
when the Freezer breaks down . . .

● Every owner of a home freezer needs this signaling device to insure quick warning of mechanical failures. Whether you sell freezers or not you can sell the Freezer Sentry. Every day more freezers, without any signaling device, are being delivered in your territory. You know the owners. They need the Freezer Sentry. Particularly important for a rural owner at a distance from service facilities.

Here Is Why You Should Sell the Freezer Sentry

- A package item. Installed by anyone in two minutes.
- Positive action. No thermostat to get out of order. A drop of mercury makes the contact.
- Battery operated Trickle charger insures 5-year battery life and 100 hours buzzer operation.
- An extra good profit margin for you.

Immediate delivery. Write today for descriptive material and price sheet.

JEWETT ASSOCIATES
1053 MAIN ST. BUFFALO 8, N. Y.

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too many
CUSTOMERS?

Can't Fill Refrigerator Orders?

With APC reconditioned electric refrigerators you can make this your biggest selling season ever.

STANDARD BRANDS LOW PRICES
LARGE QUANTITIES

Flash!...

...N. Y. furniture chain sold

100 boxes first day...

...Well known southern dealer sold

31 boxes first afternoon...

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C O N T A C T

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PRODUCTION CORP.

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BEekman 3-9155

A.G.A. TUBE

OIL BURNER TUBE

YES! THAT'S WHAT WE MAKE

REFRIGERATION TUBE

S.P.S. PIPE

WOLVERINE TRUFIN

COPPER WATER TUBE

CONDENSER TUBE

CAPILLARY TUBE

SPUN END AND OTHER
FABRICATED PARTS

SEAMLESS, NON-FERROUS TUBING

AND all our efforts are directed to making Wolverine tubing as fine as any tubing can be made—carefully watching every step of its production from the ore (mined by our parent company, Calumet and Hecla Consolidated Copper Co.) to the finished tube.

The plain surface tubing is available in a wide variety of sizes from the tiny capillary tube to the larger sizes.

Wolverine Trufin, THE integral

finned tube, is made in many sizes, and a choice of fin heights and spacings. It has many advantages that recommend it highly for installations wherever sudden heat changes or vibrations are encountered.

Both Wolverine plain tubing and Trufin, THE integral finned tube, can be fabricated to your specifications.

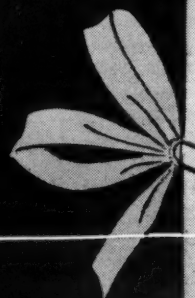
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More Frigidaires Serve
in more American Homes
than any other Refrigerator

In engineering and in manufacturing,
in advertising and in merchandising,
you can

**DEPEND ON FRIGIDAIRE
TO DO THINGS RIGHT!**

There is no other possible explanation
of the fact that more Frigidaires
serve in more American homes than
any other refrigerator.

THIS is more than a mere statement of fact. It is *proof* that
Frigidaire provides its dealers with the—

RIGHT PRODUCTS TO SELL—right models, right features, right
sizes, right prices. Plus the right *quality* of product and service
to win sales-building support from millions of users.

RIGHT ADVERTISING SUPPORT—the right kind of advertising in
the right places to increase the demand for Frigidaire Refrigerators.

RIGHT SELLING AIDS—right literature, right display and demon-
stration devices and techniques, right salesman training, and all
the other aids dealers need to turn prospects into customers.



YOU'RE TWICE AS SURE WITH TWO GREAT NAMES

FRIGIDAIRE
MADE ONLY BY
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REFRIGERATION PARTS

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UNCONDITIONAL 90 day GUARANTEE

Fully illustrated catalog and prices sent upon request on your company letterhead.

REFRIGERATION MAINTENANCE CORPORATION
321 EAST GRAND AVENUE • CHICAGO 11, ILLINOIS

Marts May Answer--

(Concluded from Page 1, Column 5)
least for the first week of the Mart, and some of those planning to attend are staying as far away as Milwaukee. (Here's a tip to those who haven't got room reservations—try some of the smaller cities west of Chicago—both road and train transportation are fast. Or come the second week, the products won't have changed.)

The aforementioned Housewares Show, Jan. 15-22, will have exhibits of the kind of things that are generally found in the housewares department of a department store.

This means products such as table appliances, cleaners, humidifiers, and the like. There will be more than 450 exhibits on two floors of the Amphitheater, which is located near the Chicago stockyards. Several miles from the loop, it can be reached by Chicago's "subway."

Refrigerators Shown
Best Nashville Gain

NASHVILLE, Tenn.—Refrigerators led the major appliance sales parade here during November both in number of units sold and in amount of increase from the previous month, figures released recently by the Nashville Electric Service indicated.

Range sales also showed a sizeable increase over October and were close behind refrigerators.

Total unit sales, as reported by more than 79 dealers, were ranges 501, water heaters 355, refrigerators 506, home freezers 19.

Location of Exhibits at the Chicago Marts

AT THE FURNITURE MART

Name	Space
A. & J. Mfg. Co.	548
Admiral Corp.	526, 527
Allen Mfg. Co.	510-B
Altorfer Bros. Co.	541, 542
American Stove Co.	518
Appliance Mfg. Co.	510-A
Armstrong Products Corp.	17/63
Athens Stove Works	624
Automatic Washer Co.	513-A
Barlow & Seelig Mfg. Co.	530
Barton Corp.	549-A
Belmont Radio Corp.	17/56-A
Bendix Home Appliances, Inc.	503
Bendix Radio Division	545-D
Ben Hur Mfg. Co.	528
Thomas W. Berger, Inc.	17/91
Blackstone Corp.	544-A
Caloric Stove Corp.	519
Clark Water Heater Co.	511-B
Clements Mfg. Co.	17/69
Cole Hot Blast Mfg. Co.	17/73, 74
Coleman Co.	525
Conlon Corp.	504
Coroaire Heater Corp.	17/M
Crosley Corp.	535, 536-A
Crown Stove Works	531
Detroit Vapor Stove Co.	521
Dexter Co.	513-B
Dormeyer Co.	2953
DuBoff & Co.	17/84, 85
Duo-Therm Div.	517
Electromaster, Inc.	17/P
Elgin Stove & Oven Div.	17/92, 93
Estate-Heatrola Div.	523
Eureka-Williams Corp.	514-B
Evans Products Co.	541-B
Farnsworth Radio & Tel. Co.	535-B
Floor-O-Matic, Inc.	17/86
Fresh'nd Aire Co.	17/106-A
Frigidaire Div.	508, 509-A
General Electric Co.	538, 539-A
Gibson Refrigerator Corp.	537, 538-B
Grand Home Appliance Co.	17/J-31
Gray & Dudley Co.	515-B
Hamilton Mfg. Co.	17/88, 89
Health-Mor, Inc.	17/68
Holcomb & Hoke Mfg. Co.	17/33
Holland Rieger Div.	542
Hoover Co.	510-A
Horton Mfg. Co.	511-A
Hotpoint, Inc.	533, 534-B
Howard Radio Co.	17/42, 43
Ice Cooling Appliance Co.	810
International Oil Burner Co.	512-A
Ironrite Ironer Co.	511-B
Jacobs Co., F. L.	17/75, 76
Jacobs Mfg. Co.	17/35
Kaiser Fleeting, Inc.	17/124, 125
Kelvinator Div.	514, 515-A
King Refrigerator Co.	17/127
Lake State Products, Inc.	17/90
Leonard Div.	514, 515-A
Lewis Steel Products Corp.	17/98, 99
Lewyt Corp.	17/58, 59
Locke Stove Co.	17/57
Loneragan Mfg. Co.	513-A
Loneragan, Vincent J.	2953
McAllister-Ross Corp.	513-A
Majestic Radio & Television	17/64, 65
Major Home Appliance Co.	536-B
Matmatic Mfg. Co.	17/85
Modern Refrigerator Co.	17/100, 101
Moore Corp.	504
Morton Appliance Co.	630, 631
Nineteen Hundred Corp.	508-B
Noblitt-Sparks Industries	17/69, 70
Norge Div.	521, 522
Philco Corp.	128
Plastray Corp.	17/49
Premier Vacuum Cleaner Div.	511-B
Premier Stove Co.	514-B
Pressed Steel Car Co.	447, 448, 449
Quaker Mfg. Co.	516-B

RCA Victor Distr. Co.	235
Roberts & Mander Corp.	546-B
Roper, George D., Corp.	529
Sanitary Refrigerator Co.	528
Schaefer, Inc.	17/K
Sellers & Sons Co., G. I.	1536
Sentinel Radio Corp.	17/L
Southern Aircraft Co.	17/77, 78
Sparks-Withington Co.	509-B
Stewart-Warner Corp.	17/55, 56
Sunray Stove	17/52, 53
Sulton Corp., O. A.	17/66, 67
Tappan Stove Co.	539, 540-B
Tennessee Stove Works	825
Trostwell Mfg. Co.	2953
Tracy Mfg. Co.	930
Walton Laboratories, Inc.	17/72
Warwick Mfg. Corp.	17/106-107
Welbilt Stove Co.	520
Westinghouse Electric Corp.	501
Zenith Radio Corp.	544-B

AT THE MERCHANDISE MART

Name	Space
American Central Div., Avco Mfg. Co.	1476
Apex Rotarex Corp.	1476
Associated Projects Co.	1240
Bersted Mfg. Co.	1467
Camfield Mfg. Co.	1405
Casco Products Co.	1492
Coolerator Co., The	11, 107
Deepfreeze Div., Motor Products Corp.	1447
Dominion Electric Mfg. Co.	1422
Easy Washing Machine Corp.	1464
Eureka Williams Corp., Eureka Vacuum Cleaner Div.	1475
Everedy Co., The	11, 112
Florence Stove Co.	1459
Franklin Corp., L. K.	11, 114
Free Sewing Machine Co.	1450
General Electric Co., Air Conditioning Div.	1127
General Mills, Inc.	1433-A
General Television & Radio Corp., Portable Products Div.	1120
Hope Products Co.	1498
Hotpoint, Inc.	1457
Kelvinator Div., Nash-Kelvinator Sales Corp.	2220
Knapp-Monarch Co.	1483
Landers, Frary & Clark	1479
LaSalle Lighting Products, Inc., Heater Div.	1492
Laundry, Ray S.	1240
Manning-Bowman & Co.	1466
Metal Ware Corp.	1411-A
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LOOKING FOR—An Easy Way To
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THE ROLL-OR-KARI DUAL TRUCKSEQUIPPED WITH THE NEW
WEB-LOCK AND TIGHTENER.
Patented Step-On Lift. Folding Handles.THE ROLL-OR-KARI CO.
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ZUMBROTA • MINNESOTAWRITE TODAY
FOR PRICES AND
FULL INFORMATION
1000 LB. CAPACITY
SHIPPING WT. 40 Lbs.for REFRIGERATOR
SERVICE MENA Money-Making
NATURAL!

No. 4718 REVERSIBLE LOCK
Same power and capacity as No. 4720, but designed with shorter base to fit panelled or glazed display cabinets. Operates at the touch of a finger—but when it trips, it grips! Forged brass handle, extruded brass bolt. Use with Strikes No. 3842 or 3839.

AVAILABLE THROUGH
YOUR JOBBER

There's an extra-profit opportunity for YOU, Mr. Service Man... in replacing obsolete, loose-fitting, broken down locks and hinges on commercial refrigerating equipment.

This free manual tells you how to cash in... how to suggest and sell good-looking, efficient new fittings... how to specify, how to install.

You can easily double your present income... make new service customers... by following these simple tips and clear instructions. Get on the gravy train... add a substantial profit to your service charges. Ask your jobber for this manual. If he can't supply, drop us a postcard TODAY for your free copy.

How to SELL and INSTALL
Commercial Replacement Hardware

A Service Manual by the Grand Rapids Brass Company

A Money-Making "Natural" for Refrigerator Service Men

Whenever you get into a place of business, you'll find a lot of obsolete, loose-fitting, broken down locks and hinges. It's a money-making opportunity for you to replace them with the new Grand Rapids Brass Company hardware.

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Example: No. 4722 Lock, No. 3842 Strike. This is the most popular lock and strike combination. It's a "money-maker" for service men. It's a "money-maker" for you. It's a "money-maker" for the Grand Rapids Brass Company.

Important: Always check effects required. See diagram.

No. 15331 REVERSIBLE HINGE. Designed especially for glazed display doors of moderate size. Two O-Rite bronze bushings and the stainless steel pin assure silent lifetime operation. Built and cast under hydraulic pressure. Offsets 1/4", 1/2", 3/4", 1", 1 1/4". No. 15341, zinc alloy, cast under hydraulic pressure. Offsets 1/4", 1/2", 3/4", 1", 1 1/4". Also available in 105 degree stop in offsets of 1" and 1 1/4".

WHEN THEY TRIP THEY GRIP. MAKERS OF THE LOCKS with the Spring Action.

Grand Rapids Brass Company
Division of CRAMPTON MANUFACTURING COMPANY
Grand Rapids 4, Michigan

STREAMLINED BEAUTY!

PERFORMANCE-TESTED FOR
CUSTOMER SATISFACTIONBEN-HUR FARM and
HOME FREEZERSModel 2127
12.5 cu. ft.
Capacity,
about 625 lbs.

PRECISION-BUILT FOR LEADERSHIP AMONG TODAY'S FINEST FREEZERS

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ARE STILL OPEN
FOR DISTRIBUTORS
AND DEALERSWrite for Technical Details
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Milwaukee 12, Wisconsin

HEALTHFUL LIVING THROUGH FROZEN FOODS

The first million



Better products through

JACK & HEINTZ

Mass Precision

One million motors have rolled off the mass precision production lines of Jack & Heintz Plant No. 7 since May, 1946 when this Company introduced its fractional horsepower motors. And, with output and acceptance steadily increasing, J & H has become a dominant force in the electric motor field.

Users report that these motors are giving *unsurpassed performance* . . . powering many types and makes of home appliances, office machines, tools and manufacturing equipment in practically every industry.

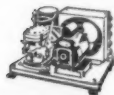
This typifies Jack & Heintz progress in all fields . . . to give you better products.



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Electric Motors



Refrigeration Compressors



Eisemann Magnets



Aircraft Starters



Aircraft Generators



Aircraft Inverters

JACK & HEINTZ PRECISION INDUSTRIES, INC., Cleveland 1, Ohio

Which Type of Combination Refrigerator-Freezer Will Customers Want?

Type I—A combination freezer and refrigerator with one door which when opened exposes both sections.

Type II—A combination freezer and refrigerator with two doors allowing selection from either section independently.

Type III—A standard refrigerator plus a separate freezer.

	Type I		Type II		Type III		Total	
	No.	%	No.	%	No.	%	No.	%
Ans.	137	8.1	1,238	73.4	311	18.5	1,686	100.0%
Type Dealer	Type I		Type II		Type III		Total	
	No.	%	No.	%	No.	%	No.	%
Miscellaneous	11	0.7	86	5.1	18	1.1	115	6.8
Plumbing	18	1.1	2	0.1	20	1.2
Automotive	3	0.2	52	3.1	13	0.8	68	4.0
Electrical Appliance	66	3.8	631	37.4	163	9.7	860	51.0
Furniture	20	1.2	191	11.3	38	2.2	249	14.8
Department	11	0.7	79	4.7	15	0.9	105	6.2
Hardware	26	1.5	181	10.7	62	3.7	269	16.0
Total	137		1,238		311		1,686	

Which Size Walk-In Will Customers Want For Farms: 20, 30, or 40 Cu. Ft.?

	20 Cu. Ft.		30 Cu. Ft.		40 Cu. Ft.	
	No. of Responses	% of Total	No. of Responses	% of Total	No. of Responses	% of Total
Miscellaneous	27	2.2	37	3.1	24	2.0
Plumbing	9	0.7	9	0.7	1	0.1
Automotive	12	1.0	25	2.1	10	0.8
Electrical Appliance	185	15.5	301	25.2	157	13.0
Furniture	38	3.2	52	4.3	14	1.2
Department	20	1.7	28	2.3	19	1.6
Hardware	69	5.7	119	9.9	44	3.7
Total	360	30.0	571	47.6	269	22.4

Total Responses—1,200

Demand for Combined Refrigerator-Freezer Exceeds Conventional Model, Survey Shows

CHICAGO — Is the combination type refrigerator-freezer destined to supplant the conventional refrigerator as a family model?

Answers from 2,832 appliance dealers to a questionnaire sent out by Hotpoint, Inc., indicate this is "very possible" when production permits an unlimited supply of such units, according to L. C. Truesdell, vice president of marketing.

Truesdell based his opinion on replies to the query, "Do you believe the combination refrigerator-freezer now has greater demand than the standard refrigerator?" Of the 2,673 dealers who answered this question, 64.7% said "Yes."

The questionnaire, which was received by dealers in every state, also asked which type of combination unit customers want, what the average size of each compartment should be, and if dealers thought the sale of a combination unit will lead to the sale of a separate freezer.

Other questions dealt with the sizes and demand for freezers and walk-ins among rural residents, the sizes of freezers most in demand by urban dwellers, financing, and requests for left-hand hinged doors.

Of the 1,686 dealers who responded to the question on types of boxes, 73.4% believed a two-door model would be favored. Only 8.1% thought a single-door combination would find the greatest market, while 18.5% said the conven-

How Are Refrigerators Being Financed?

Question: How are refrigerator purchases being financed?

Purchases by Cash		% to Total
Cash %	Returns	
0—10	207	7.9
11—20	66	2.5
21—30	158	6.0
31—40	123	4.7
41—50	403	15.4
51—60	123	4.7
61—70	89	3.4
71—80	426	16.2
81—90	345	13.2
91—99	681	26.0
	2,621	100.0%

tional, single-compartment refrigerator would outsell all others when customers have a choice.

Interpreting comments that were "written in," Truesdell said these dealers were more than 10 to 1 in favor of a two-door box over a single-door combination. Tabulations of the comments showed that 48 qualified their preference by saying "if popularly priced," he added.

The average size of the refrigerator compartment in a combination should be 7 cu. ft., 41.4% of the 2,154 dealers replying to this query felt. A 6-cu. ft. compartment was voted for by 31.5%, with 23.4% favoring 8 cu. ft., and 3.7% marking 5 cu. ft.

Two cubic feet was the most-wanted freezer compartment size, according to 55.9% of 2,001 retailers who indicated a choice. The remaining responses were divided as follows: 28.4% for 3 cu. ft., 14% for 4 cu. ft., and 1.7% for 1 cu. ft.

Opinion was evenly divided on whether or not the sale of a combination unit will lead to the sale of a separate freezer. Out of 2,564 answers, 51.4% were "Yes" and 48.6% "No."

Farmers Want Large Freezers

In a series of questions on the farm market, 84% said that farmers want freezers with capacities between 8 and 12 cu. ft., while only 3% felt there was a market for a 4 cu. ft. or smaller home freezer. A preference for 12-cu. ft. and larger farm freezers was expressed by 1,120 dealers, representing 51.9% of the answers to this question.

Commenting on these figures, Truesdell said sales results have shown that customers of all classes have wanted larger models than the industry had anticipated.

Dealers who wrote in comments regarding the farm market for freezers indicated that larger sizes were the dominant characteristic at this time. Seventeen of these said

they had a market for an upright-type freezer, 13 noted that farmers prefer lockers to home freezers, and 24 reported that the freezers they had been selling were too small for farmer customers.

A query as to the capacity, where a walk-in type freezer is used, revealed that 47.6% of 1,200 responding favored 30 cu. ft. Thirty per cent checked 20 cu. ft., and 22.4% marked 40 cu. ft.

Eighty-four per cent of 1,754 dealers answering felt that between 60 and 100% of all farm homes would use a freezer. Only 5.2% said that less than 10% would buy one. The remaining 10% of the dealers said something between 10 and 60% of farm homes would be purchasers.

But expressions were almost reversed on the question of what percentage of farm homes would use a walk-in. In the opinion of 66.3% of 1,492 dealers replying, less than 10% of rural homes would want one.

Between 10 and 20% of farm buyers desired a walk-in, according to 16.8% of the dealers; between 20 and 30%, according to 10.9%; between 35 and 40%, according to 1.4%; about 50%, according to 2.9%; and between 60 and 95%, according to 1.7%.

What Town Homes Need

"What size cabinet home freezer will town homes buy?" was another question. Of those answering it, 32% said capacities between 8 and 12 cu. ft. would prove to be most popular.

The 6-cu. ft. model was viewed as best by 20.6%, the 8 cu. ft. by 18.1%, and the 4 cu. ft. by 10.4%. However, another 12% checked both the 6 and 8-cu. ft. sizes and still another group of 10.5% leaned to both the 4 and 6-cu. ft. capacities.

With regard to these figures, Truesdell observed that there is a noticeable rise in dealers' thinking as to the sizes that would be most popular. It was his opinion that this would increase even more in size as the industry developed.

Another question asked how refrigerator purchases are being financed. Of the 2,621 dealers who answered it, 26% said between 90 and 100% were by cash. Between 70 and 80% of purchases were by cash, according to 16.2% of the dealers; between 40 and 50%, according to 15.4%; and between 80 and 90%, according to 13.2%.

In answer to the question, "What per cent of customers ask for left-hand hinged doors?" 91% of the 1,745 dealers responding said less than 10%.

The questionnaire was sent to approximately 10,000 dealers in a continuing research activity on dealer opinions. Answers came from 29% of them.

KLIXON

DOME-MOUNTED PROTECTORS

In Hermetic Refrigerators

Pay-off 4 ways



1. Prevent Motors from Overheating and Burning Out
2. Eliminate Motor Repairs in Your Service Department
3. Reduce Factory Returns of the Hermetic Unit
4. Maintain Product Reputation and Customer Goodwill

You can help keep customers sold on your refrigerators by using hermetic units with Klixon Dome-Mounted Protectors.

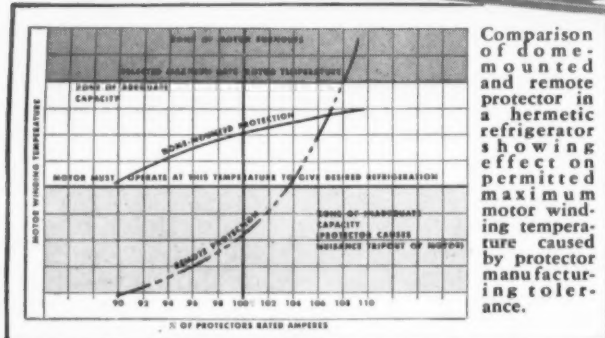
These easy-to-install protectors eliminate one of the trouble spots in refrigerators . . . motor burnouts.

Klixon Protectors take into account all the variables that cause motor overheating . . . clogging of the condensers with dust and lint, low line voltage, poor location, hot room conditions, etc. . . and cut the power "off" should the motor become dangerously overheated, preventing the motor from burning out.

When the motor cools to safety, they snap the power "on" again automatically. Thus, they not only safeguard the motor, but permit the unit to provide refrigeration, preventing food spoilage . . . a powerful selling point and customer goodwill builder. In addition, Klixon Protectors reduce service calls, minimize factory returns for repairs and replacements and cut down service work.

KLIXON

SPENCER THERMOSTAT CO., 905 FOREST ST., ATTLEBORO, MASS.



The Klixon Motor Starting Relay completes the combination required to start and protect the hermetic motor. Its positive-action and long life eliminates starting troubles, and makes it a fitting companion for the Klixon Protector. Also, investigate Klixon current-type motor starting relays for other new split-phase and capacitor motor designs.

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Here's the really **BIG NEWS** for General Electric retailers!

The great new 1948 line of General Electric Refrigerators and Freezers



The New NH-8, 2-Door Refrigerator-Home Freezer Combination

"Zero-Zone" compartment of 1.5 cubic feet, with its own door, holds up to 53 pounds of frozen food and maintains 0°. Equipped with 4 ice cube trays. Separate outside door prevents cold waste.

Fresh-food compartment has 6.7 cubic feet of usable storage space—(practically as much fresh-food space as you get in standard 8-foot refrigerators). Never needs defrosting. Butter Conditioner, big fruit and vegetable drawers.

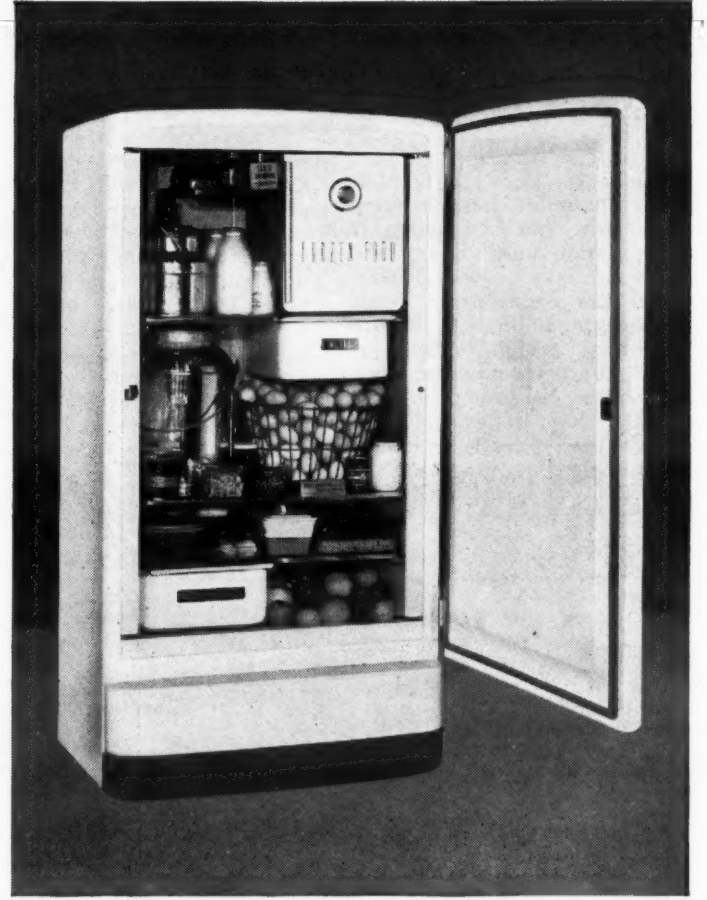


The New NF-8 Space Maker Refrigerator with Freezer Compartment

New Space Maker design gives $\frac{1}{3}$ more refrigerated storage space in the same floor space.

Stainless-steel freezer compartment holds 32 pounds of assorted frozen food. Equipped with 4 ice cube trays. Big meat, fruit, and vegetable drawers—room for $\frac{2}{3}$ bushel of fruits and vegetables. Butter Conditioner, ample bottle storage, and General Electric dependability.

Also available in 10-cubic-foot model—the NF-10E.



The Big, New NB-10 Space Maker Refrigerator

General Electric's new Space Maker design gives plenty of refrigerated storage space.

Ideal for farm families and others needing extra refrigerator space. Easily holds a 3-gallon can of milk and leaves plenty of space for other foods. Stainless-steel freezer compartment holds 32 pounds of frozen foods. Equipped with 4 ice cube trays.

Also available in 8-cubic-foot model—the NB-8E.

HERE is the greatest line of refrigerators and freezers we have ever offered.

The famous General Electric sealed-in refrigerating system, proved by twenty years of unmatched performance in all G-E Refrigerators and Freezers, has been remarkably improved to freeze ice $33\frac{1}{3}$ per cent faster, and to use less electricity than General Electric's latest prewar systems.

And its new compactness has made it possible for General Electric designers to produce a whole new line of refrigerators with $\frac{1}{3}$ more refrigerated storage space than other refrigerators occupying the same kitchen floor space.

There is a new General Electric Refrigerator or Freezer to fit the needs of every family in your area.

General Electric is helping you to sell them with full-page, full-color advertisements in national magazines—and with all the top sales and promotional helps you can use.

Get details from your General Electric distributor today.

General Electric Company, Appliance and Merchandise Department, Bridgeport 2, Conn.

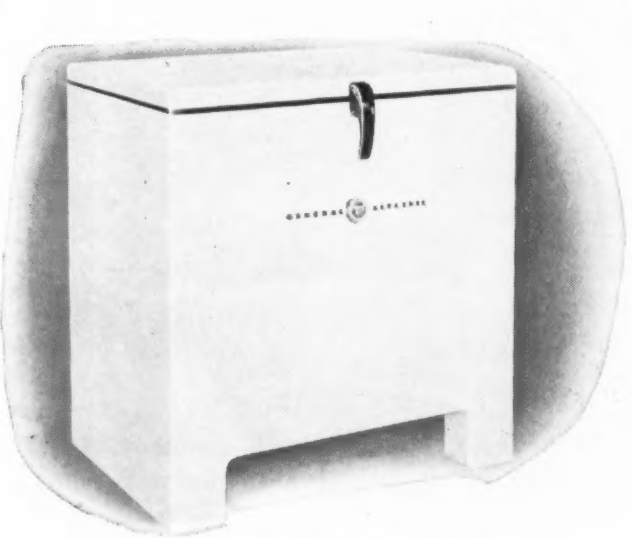


The Big, New NA-8D Home Freezer

Holds 280 pounds of assorted frozen food at 0°, or lower.

Automatic interior light, 4 removable wire baskets, refrigerated shelves, thermometer, all-steel Perfect-seal cabinet construction, Fiberglas insulation, counterbalanced lid. General Electric sealed-in refrigerating system.

Dimensions: Height, 36"; width, 48 $\frac{1}{2}$ "; depth, 31 $\frac{3}{8}$ ".



The New NA-4D Home Freezer

Holds 140 pounds of assorted frozen foods at 0°, or lower.

Automatic interior light, 3 removable wire baskets, thermometer, all-steel Perfect-seal cabinet construction, Fiberglas insulation, counterbalanced lid. Equipped with the famous General Electric sealed-in refrigerating system.

Dimensions: Height, 36"; width, 33"; depth, 28 $\frac{1}{2}$ ".

 **Refrigerators and Home Freezers**

More than 1,700,000 refrigerators in service ten years or longer.

GENERAL  ELECTRIC

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

tires of his house, the latter may be traded in on a new model. Conversely, if a change of premises is desired, the owner may select another lot and move the home onto it.

Although factory-produced, the component parts of such removable houses offer a wide variety of architectural styles, room arrangements, and even custom-built features. Although \$3,000 is the minimum goal set by most mass-production house planners, a price to suit every purse may be realized eventually.

Erected in defense areas during the war, thousands of factory-produced pre-fabricated dwellings have proved to be both practical and economical.

The Homasote Co. of Trenton, N. J.; The Gunning Housing Corp. of New Albany, Ind.; the John B. Pierce Foundation and Celotex Co., together with many others, were engaged in the experimental erection of this type of housing. War-time exigencies brought about innumerable improvements in pre-fabricated house construction. Appearance and comfort of packaged houses have been greatly enhanced by the free use of plastics, new forms of metal and glass, and plywood.

Procedure for securing delivery and

erection of the ready-to-assemble houses is amazingly simple. Home units—consisting of factory-assembled panels, complete with insulation, heating and plumbing pipes, and electrical wiring—are packaged into a 10 ton truck for delivery, after approval.

That's all there is to it, almost.

Details In Blue Denim

Pre-cast concrete footings are sunk in the ground of a vacant lot, over which are laid the floor panels, containing all the necessary utility and plumbing connections.

Walls, with windows and doors already hung, are quickly bolted together.

In many cases, interior units, such as cabinets and closets, replace the walls in supporting the roof. After the latter is placed upon the structure, the finished home is ready to receive its furnishings.

When this method of "casting" a small home is followed, the premises are completely free of nails and odd pieces of lumber, which ordinarily clutter the site of new constructions. The entire piecing-together process, with the exception of the final assembly, is completed at the factory. Units of these pre-fabricated homes are connected by means of bolts and tie-rods. And here's another advantage: these homes can be dismantled almost as easily and quickly as they are set up.

All rooms in these mass-produced houses are complete with built-in, wall-supported fixtures. Their surface finishes are plastic and water-

proof, or glass-hard surfaces that won't mar—thus eliminating the necessity for painters and decorators.

With walls that refuse to sag, expand, or contract, mice, termites, and other pests will be unable to infest the pre-fabricated house.

Someday soon, the "pre-fab" house will be accepted by the heads of new families. It's a "natural." Home appliance dealers and air conditioning contractors, please note.

Invite Them to Open Your Door

Just as all travelers chortle at that bromide, "you can't miss it," which invariably concludes any given set of oral directions proffered by a "native" to get to any place, so do all appliance dealers snicker up the wrong side of their sleeves when they hear the age-old rejoinder:

"No, thanks; I'm just looking!"

Dealers have heard that stay-away-from-me-big-boy remark so many thousand times during the course of each year they have been in business that it gags them.

Nevertheless, they should be appreciative of "lookers."

And they should encourage them.

Why, pray tell? Because "lookers" often become buyers.

Seeing is believing. And sight leads to sales.

So, how do you get them to look?

Answer: Window displays. Next, store-center displays. Third, related product groupings.

Show what you have to sell. Let

your unexpected prospects sell themselves.

Unhide your lights from underneath that bushel!

Tell All

Along with sight, offer information. Accompany product displays with exhibitions-in-motion, with informative placards, with promotional literature.

Let your intrigued passer-by, the one who protects herself by saying that she is "just looking," get a load of what some of your specialty products have to offer her in terms of better living, more leisure, greater convenience, and ultimate happiness.

Save your vocal organs. Let her eyes do your work!

Eye-appeal will work faster and better than ear-appeal. Use it intelligently and regularly. And change it often.

The eye can become bored and jaded quickly—so many competitors who are clamoring for its attention can move into the front-and-center spotlight.

Product displays in your show-windows will attract "just lookers."

So it is that exhibits of every day merchandise aren't enough, taken alone.

In case you aspire to move into the "major leagues," here's your routine—first, you must identify those products with their manufacturers' hard-won national reputation, by means of signs and cards.

Second, you must invite passersby to walk inside, so that they may see for themselves the wonderful advantages of these products.

Third, by virtue of the arrangement and accessibility of your interior, you can win pre-conditioned prospects and new customers.

Eye-appeal pays off.

Even during the "boom" times the specialty dealer who capitalizes on eye-appeal registers the highest volume, and the largest profits.

Great Idea

It isn't often that we plug an organization, but here's one that shows great promise of usefulness:

Junior Achievement is a non-profit, non-political, non-partisan, non-sectarian organization of businessmen dedicated to the purpose of educating the American youth from 15 to 21 years of age in the ways and methods of the "business system which built America," and eventually help them become enlightened citizens and businessmen of the future.

Junior Achievement is NOT anti-labor; nor is it a proselyting or lobbying organization. It has no axe to grind. It is not trying to develop a pressure group. It does not compete with any business or individual industry or service.

Here's how it works. A group of teen-agers are brought together by businessmen in a community. These teensters form an actual, though miniature, business corporation to produce a product or sell a service.

Adult sponsors advise and help them. The youngsters sell stock to finance this miniature corporation, buy supplies with the proceeds, determine a product and produce it, sell it, make money, pay themselves wages and their stockholders dividends.

Thus, they learn to understand and appreciate the free enterprise system by engaging in it. And so they become understanding employees, employers, citizens for the rest of their lives.

In the process, these young people get "the feel" of business organization and management procedure. They adopt by-laws, elect officers, work out a capitalization structure, determine wages, select a company name and arrange for committee meetings, plan sales, open a bank account, establish accounting procedures, take inventory, and prepare operating and financial statements.

They learn production methods as laborers, practice industrial relations as employers, package and deliver their product, purchase raw materials and supplies, map and conduct sales campaigns, study market research, advertise, and carry out a public relations policy which they formulate themselves.

In our opinion, this is one of the greatest educational ideas we've seen in a month of Sundays.

To get a local project started, representatives of management, labor, education, and civic affairs form a committee. This committee persuades local business organizations to act as sponsors, and to provide three adult advisors for the miniature corporation.

The committee supervises the whole operation, but lets the youngsters learn for themselves by doing.

By 1950, it is hoped that at least 30,000 Junior Achievement companies—employing 360,000 workers with 1,800,000 stockholders—will be in operation throughout the United States. This will mean that each year some 2,160,000 persons will participate in its program.

Why should all of us support this Junior Achievement program?

Because Junior Achievement is probably the most effective single movement in existence today for counteracting the "anti-industry" attitude of so many of our voters and future voters. Supporting its program is one of the smartest moves which could be made by businessmen who understand the importance of individual incentive under our economic system, and the tremendous danger to our national standard of living which lies in the present trend away from free enterprise.

Save Plenty of Time for the UNIVERSAL COOLER DISPLAY

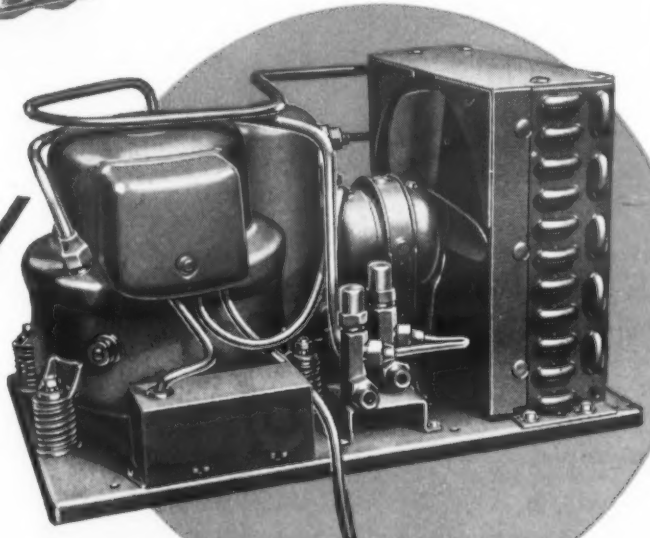
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See Universal Cooler's new and better condenser in which the tube and fins are die-formed from a single sheet of copper-clad steel. First public showing at the All-Industry show.

New!

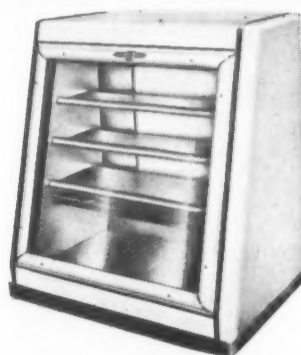
See samples of the new Hermetic units just added to the Universal Cooler line, broadening the range of U. C. D. Hermetic applications. First public showing at the All-Industry show.



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678 BROADWAY



Freezer Purchasers Get Frozen Foods Delivered To Their Homes

DAYTON, Ohio — Purchasers of home or farm freezers from the Dayton Fixture Exchange here are provided with a home delivery service on Hospitality House frozen foods under an agreement made between the new fixture store and Continental Frozen Food Products.

The Dayton Fixture Exchange is located at 3120 N. Main St. and is owned by E. George Sanders. Sanders also owns the Morton Show Case Co. of Dayton.

A savings of 25% or more is claimed for freezer purchasers who take advantage of the service, according to a three-quarter-page advertisement inserted in a local newspaper recently by Sanders.

The advertisement stated: "Our fortunate arrangement with 'Hospitality House' makes available to our customers all the luscious dinners and food resources from their frozen food processing plants and warehouses located in Centerville, Bradford, Versailles, Quincy, Montpelier, and Oak Harbor, Ohio, and in Auburn, Hudson, Hartford City, and Greenfield, Ind."

It urged prospects to "beat the food shortage predicted for next year" by "having this established supply of savory foods right in your own kitchen . . . backed up by the limitless food resources of the 'Hospitality House' organization . . . and instantly available to you by using your telephone."

In addition to home and farm freezers, the Dayton Fixture Exchange also handles packaged air conditioning equipment, and food equipment for merchants.

Desert Refrigeration Set Up

BANNING, Calif.—Desert Refrigeration Sales Co. is the firm name under which Clyde V. Hutchens has published a certificate that he is conducting business at 280 East Ramsey St. here.

Both in the same bracket!

THAWZONE
PATENTED
The PIONEER FLUID DEHYDRANT

... ACTIVE, ALWAYS CIRCULATING. DESTROYS MOISTURE CHEMICALLY, ECONOMICALLY, QUICKLY AND EFFECTIVELY.

TRACE
REFRIGERANT LEAK DETECTOR

... ITS STABLE AND VIVID RED COLOR REVEALS LEAKS ... INSTANTLY!

HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

Insist on genuine

MARLO
Products

MARLO-HEAT TRANSFER
Since 1935

Planning, Design Service Offered to Stores by New Texas Fixture Firm

SAN ANTONIO, Tex.—Modern Metal Products, Inc., which will distribute refrigeration and air conditioning equipment, and electrical appliances, has opened offices, display rooms, and a factory at 1004 N. Alamo St.

James W. Crenshaw, president of the new firm, announced that engineering, installation, and service will be maintained by a trained staff under the supervision of James A. Miller.

He added that one division of the company will offer complete store planning and designing service, using fixtures manufactured in the new plant here. H. S. Walker, with a varied experience in eastern cities, will head this division, while C. A. Wheeler, Jr., will act as store planning engineer. He has had 16 years' experience in store designing.

A Streetcar Named Comfort

Air Cooling Increases Summer Traffic In 'Largest' Dining Car Restaurant

UNION, N. J.—More than 50 tons of refrigeration for air conditioning has been installed by the Deluxe Diner, "world's largest dining car restaurant" here, by a local air conditioning contractor.

The dining car restaurant consists of two dining cars placed at right angles to form an "el" totaling over 135 ft. of space, each car being 16 ft. broad. When James Mears, owner of the institution, found that summer sales volume dropped very sharply due to high heat conditions in the diner, he made a number of changes which have actually boosted summer food sale volume over winter.

To accomplish this, Mears first had 4 in. of fibreglass insulation throughout all of the walls and the roof, "Koolshade" screening, and Thermopane double-glass windows to screen out high outside temperatures which

often rise past the 96 degree mark in this section of the state.

Next, a short-order grille, on which hamburgers, hamburger steaks, chops, and steaks, were fried to order for customers, was removed from a point behind the counter in each car into the "preparation kitchen" area at the rear, thus concentrating all of this heat at one point. Exhaust fans of high capacity draw the heat off quickly from the kitchen area, and there are no heat-creating units in operation in the service area except for small electric appliances.

To do away with the familiar odors of fast-service, short-order institutions, Mears also installed carbon absorbent filters through which all recirculated air passes twice in an ordinary circuit. This does away with all odors, dust, etc.

Also installed by the refrigeration

contractor were a basement with 60 cu. ft. of low temperature storage space, two walk-in coolers, a refrigerated garbage room, which does away with odors, and makes it possible to remove the garbage accumulation only once a week instead of daily, and employees' restrooms and locker room.

With the installation of low temperature storage facilities the restaurant can keep on hand almost six times as much fresh frozen vegetables, pies, and baked products.

Bensen, Nelson Take McQuay Sales Posts

MINNEAPOLIS — Appointment of two more regional sales managers—C. L. Bensen and E. V. Nelson—is announced by McQuay, Inc.

Bensen will cover the central region and Nelson will cover the west. The eastern sales division was previously assigned in November to C. T. Bappler.

Both the new regional managers will headquarter in Minneapolis.

BIG! Yet it occupies only 9 Square Feet of Floor Space

25 Cu. Ft. CAPACITY
in the



The KOCH 25-Cu. Ft. Reach-In Refrigerator is now available with or without an ice-maker.

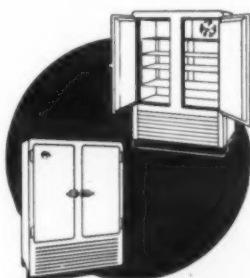
KOCH STAINLESS STEEL REFRIGERATOR

Here is the refrigerator that your customers have been waiting for. The capacity is a full 25 cubic feet of serviceable, accessible, refrigerated storage space in a minimum of floor space. It has the features that sell. A continuous wall of 3-inch thick insulation keeps operating costs at a minimum. The oversize, $\frac{3}{4}$ h. p. condensing unit freezes the full ice cube load of 216 ice cubes weighing 21 pounds in a remarkably short time. The stainless steel cabinet is welded into a single self-supporting unit. Your customers will like the modern appearance of glistening stainless steel that can't chip or crack; that will give a lifetime of service. KOCH invented the design of this refrigerator during the

war to meet battle conditions aboard warships, aircraft carriers, and submarines. The United States Navy is using thousands of similar cabinets made by KOCH. This is the first time such equipment has been available to civilian users.

Operators of restaurants, hotels, hospitals, and every type of business using refrigerators find that the KOCH 25-Cu. Ft. Stainless Steel Refrigerator does more, at lower cost. KOCH Refrigerators are the choice among those who insist on more refrigerator capacity in a minimum of floor space. Let your customers know that the KOCH 25-Cu. Ft. Reach-In is now available . . . then watch those big crowds gather, and too watch your sales curve go up . . . way up!

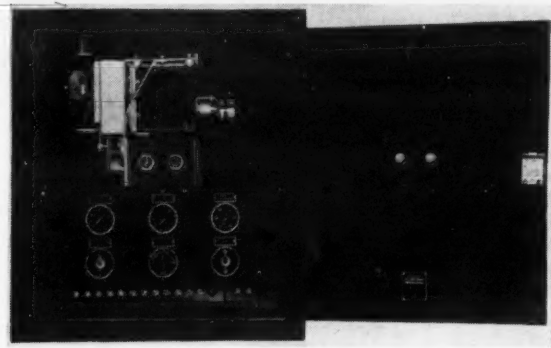
"KOCH IS TOP NOTCH"
Since 1883



KOCH Refrigerators

NORTH KANSAS CITY 16, MISSOURI

Regulates Inside Heat by Outside Conditions



Control panel for the new modulating Weatherstat system manufactured by the Minneapolis-Honeywell Regulator Co.

New M-H Modulating Temperature Control Supplements Firm's Weatherstat System

MINNEAPOLIS — Development of a fully modulating system of temperature control for commercial and industrial buildings has been announced by the Minneapolis-Honeywell Regulator Co. Now in production, the device regulates inside temperatures in accordance with changes in outside climatic conditions, John E. Haines, vice president, said.

Applicable to either hot water or steam heating plants, the new control supplements the Weatherstat system now made by the company.

By regulating a continuous flow of heat in direct proportion to heat requirements, the new instrument makes possible greater internal comfort while at the same time reducing under-and-over-heating to a minimum during milder weather, he said.

The system consists of a new outdoor unit with a thermostatic control which is sensitive to slight changes in weather conditions. The control panel contains all adjustments for matching the heating system operation to the design temperature of the zone and the desired temperature level.

In addition, Haines said, a reset controller for setting the position of the pressure or temperature controller is either included in the panel or mounted separately near the modulating valves.

The reset mechanism also regulates the heat input to the Weatherstat to compensate for variable heat losses due to wind and sun effects at dif-



Detail view of new control.

ferent outside temperatures. Night shutdown is an added feature of the control panel. Equipment for the new system is now available, the Honeywell officer said. The control panels, however, will be constructed on a custom-made basis.

Timmons, Inc. Is New Cooling Firm In Columbia

COLUMBIA, S. C.—A new air conditioning equipment, refrigeration, and home appliance firm has been incorporated here under the name of Timmons, Inc. Charles F. Timmons is president. Authorized capital stock is \$10,000.

1,200 Gas Conditioning Units Shipped In '47

NEW YORK CITY—More than 1,200 of the advanced-type, all-year gas air conditioning units now in full production were shipped during 1947, according to Hudson W. Reed, president of the American Gas Association and president of the Philadelphia Gas Works.

In a report on progress made by the gas industry in 1947, Reed said full production of year-round gas air conditioners was achieved after 13 years of development and testing, including work done under actual operating conditions in more than 100 homes.

"Further impetus to this market was seen in the announcement last month of a new cooperative A. G. A. research project at the University of Illinois to improve air distribution systems for all-year air conditioning, thereby reducing costs without sacrificing performance," Reed stated.

Atlanta Coal Firm Adds G-E Air Conditioning Line

ATLANTA — The Thompson Coal Co. here has added General Electric air conditioning equipment to the products it handles.

The Thompson organization's air conditioning department is staffed with trained representatives under the direction of a professional engineer. C. C. Smith is sales supervisor; Ed Ferrell, R. R. McFarland, and J. O. Newberry, sales engineers. T. W. Thompson, Jr., is owner of the firm.

Plastic Panel That Resists 2,200° F. Heat, Insulates Against Noise, Made by Skydyne

ARLINGTON, N. J.—Development of fire-resistant paneling that protects human flesh within 1 in. of fire 2,200° hot was announced Dec. 15 by the Du Pont Co.

Expected to reduce aviation fire hazards substantially and to have many other uses (possibly as air conditioning ducts) the new panels are made of specially treated Du Pont "Strux" cellular cellulose acetate plastic sandwiched between sheets of extremely thin (0.006 in.) carbon steel. Test panels are ¼ in. thick. They are so light—less than a pound per square foot—that a small child could lift a large section, yet they have the strength to support the weight of a large man.

Civil Aeronautics Authority specifications for airplane firewalls require material to withstand applied heat of 2,000° F. for a period of 15 minutes. In official tests, the new steel and plastic paneling withstood applied heat in excess of 2,200° F. for more than 30 minutes.

At the end of the test period, the hand could still be held comfortably less than an inch from the panel on the side opposite from the fire.

Further unofficial tests have shown that the paneling stands up after more than an hour of exposure to a 2,000° flame.

An idea of the intense heat withstood by the panel can be obtained by comparing it with the temperature of the hottest cooking oven, which is about 550° F.

An interesting sidelight on the construction of the panel is that the plastic core material, cellulose acetate, is not fire-resistant, being classified as slow-burning. In this application, however, as a result of special treatment by the Skydyne Corp. of Port Jervis, N. Y., developer of the paneling, the plastic, on exposure to heat, forms parchment-like layers. These layers act as a heat barrier.

The panels also insulate against noise. The Skydyne Corp. has pioneered sandwich construction for aircraft structures and airborne equipment. It will market the material under the name of "Pyroply."

Although the new paneling is intended initially for the aircraft industry, many other uses are foreseen where light weight and fire-resistance are considerations.

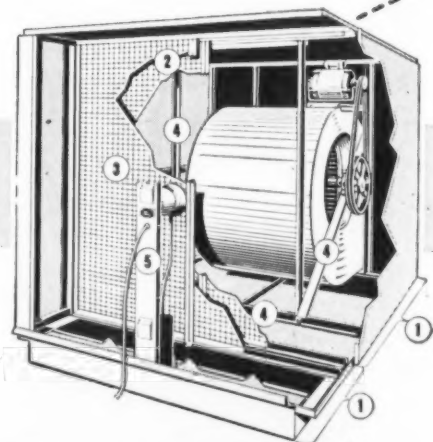
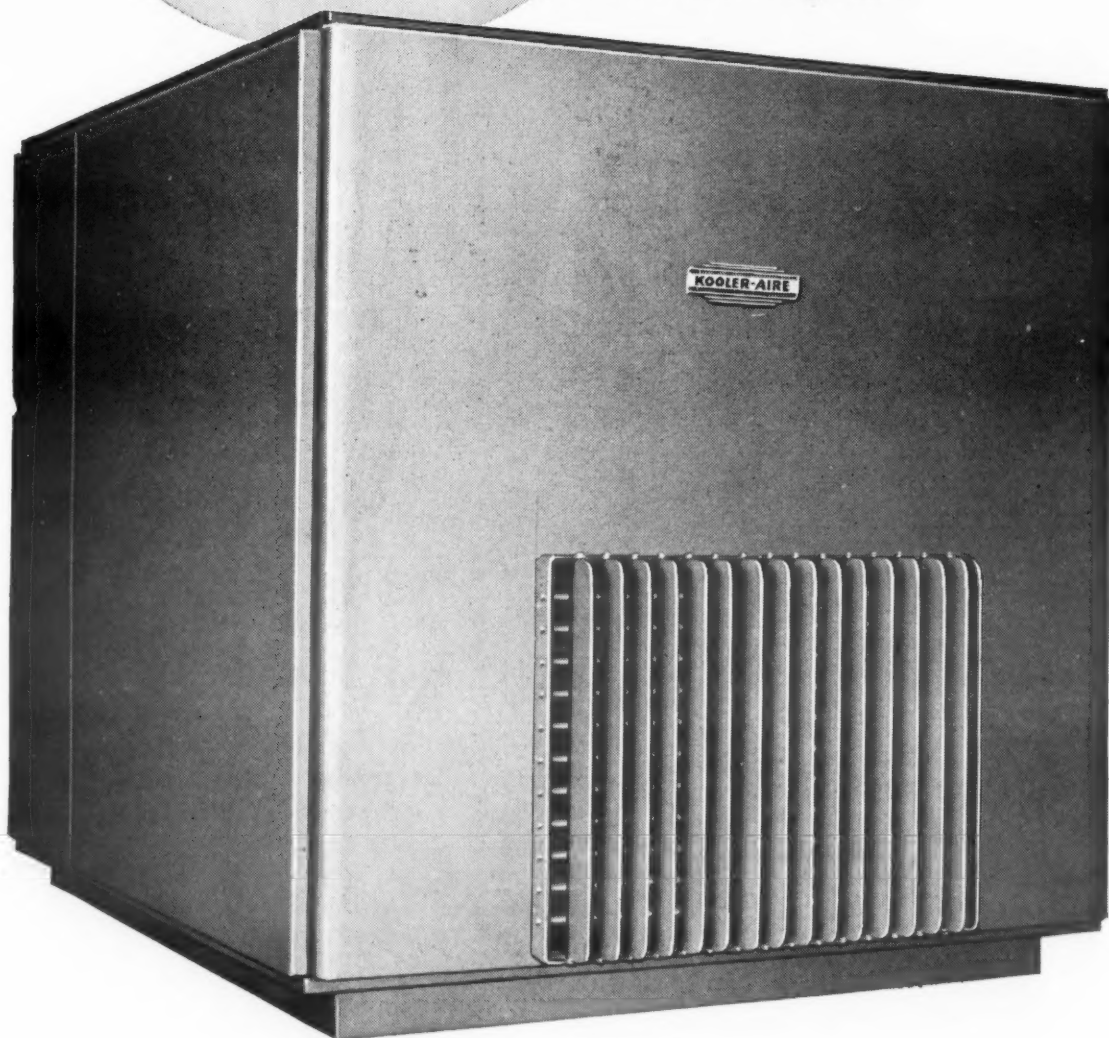
Memphis Hotel Lets \$100,000 Contract for Air Conditioning

MEMPHIS, Tenn. — MacGregor, Inc., this city, has received a contract from Hotel Peabody for additional air conditioning of the structure at a cost of approximately \$100,000. Work on the project is to be completed about May 1.

Frank Schutt, president of the operating company, said 300 of the Peabody's 625 rooms and the public places such as lobby, mezzanine, meeting rooms, and dining rooms had been air conditioned before the war.

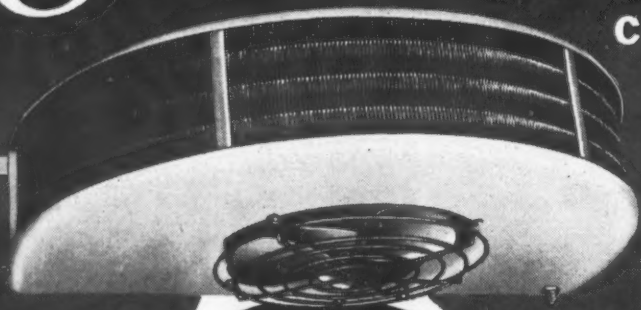
Evaporative Cooler-aire OFFERS YOU

The Most Smartly Designed, Best Constructed, Most Efficient Unit in the Comfort Cooling Field



Takes No Storage Space

FROM A COOLER



Filterpure

MOUNTS AGAINST CEILING NEXT TO WALL

HALF ROUND CEILING UNIT

For Walk-ins and Florist Boxes. Installed on the ceiling adjacent to wall, completely out of the way. Cooler is blanketed with low velocity air, with a relative humidity in excess of 85% thru a 180° arc. Equipped with Air Purification—Built-in Louvres—Built-in Liquid Distributor—Slide Hangers. Made in 6 popular sizes from 260 to 867 BTU per 1° TD. Highly efficient, compact, streamlined.

Sold by Leading Refrigeration Wholesalers

BETZ CORPORATION
HAMMOND • INDIANA

Food Buyers Shop In Year-Round Comfort



Two radial units with a capacity of 100 tons air condition this 13,986-sq. ft. food store which Donahoe's operates in downtown Pittsburgh. Three trunk lines supply the conditioned air to this large space.

Air Conditioning Lets 'World's Finest Food Store' Make Claim of 'Most Complete'

PITTSBURGH — Donahoe's, Inc. downtown food store here has been air conditioned by the Limbach Tempatrol Co. The system is powered by two Chrysler Airtemp radial condensing units with a total capacity of 100 tons.

This air conditioning plant is another "first" for Donahoe's, which for two decades has claimed to be the "world's finest food store," and now lays claim to being "world's most complete."

Air conditioning a food store of

this size (13,986 sq. ft.) is unusual north of the 40th parallel. Year-round comfort is provided for Donahoe's customers. All of the air distributed through the system will be filtered, which is an important factor in the Pittsburgh area.

In addition to complete temperature control, dehumidification, ventilation, and filtering throughout the cooling season, the system will be operated in the winter months to ventilate and distribute fresh, filtered air from the outside, which will be

tempered by a large bank of steam coils.

In engineering this job, the Limbach Tempatrol Co. spent considerable time in research to determine the number of persons that are constantly moving in and out of the store, determining peak hours and accumulating other data necessary to intelligently design this system.

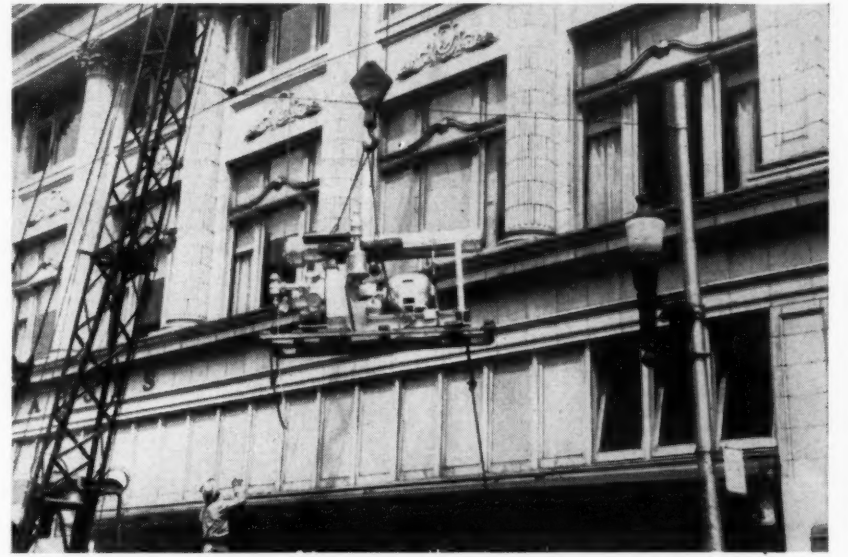
It was determined that the total sensible, internal, and transmission heat gain was 815,000 B.t.u. per hour on the basis of an occupancy of 1,000 people. Because of a relatively high ceiling, conditioned air could be introduced at a temperature of 26° F. lower than design room temperature; the conclusion being that 26,000 c.f.m. of conditioned air at 54° F. D.B. would effect the removal of the heat load from the spaces to be cooled.

This air is distributed by means of a system of overhead metal air ducts and diffusers. The distribution system required 11 tons of metal, which was fabricated by the Limbach Tempatrol Co. in a separate shop. This was done so that there would be no interference from other shop activity and so the fabrication would be promptly completed to avoid prolonging the erection and installation of the ductwork on the job.

The erection was made on night shifts so that there was no disruption to the normal business of the store throughout the entire installation.

A minimum of 5,000 c.f.m. of outside air will be introduced into the system at all times for ventilation. By means of automatically controlled dampers additional quantities up to 100% of outside air can be introduced when desirable. The outside air

Sunday Installation Disturbs No Traffic



Air conditioning machinery at Donahoe's food store is installed in a penthouse on the roof, and was hoisted into place on a Sunday to avoid interference with street traffic. The actual installation work was performed at night to avoid disruption of the store's daily business.

dampers will close automatically when the fan stops.

A system of automatic controls operated pneumatically will regulate the operation of the system at all times. After the fan is started manually the automatic controls take command and maintain the conditioned area at the predetermined temperature.

The 100 tons of condensing equipment was set up on the Chrysler Airtemp "Auto-Balance System," which is claimed to provide proper indoor humidity and temperature regardless of load or other weather variations. The outside fresh air which is introduced into the air conditioned space is continuously cooled and dehumidified during the summer cycle.

The recirculated air is cooled and dehumidified by a bank of cooling coils controlled by an automatic valve which is regulated by a thermostat in the recirculated air.

Outstanding features of the system are the (1) automatic starting unloader, which permits compressors to start without load, (2) automatic capacity regulator, which saves current and operates at peak efficiency at all loads, (3) direct connected drive—no belts, no flywheel, and (4) constant temperature and humidity control through the auto-balance system.

There were many problems to be overcome in order for this system to be completed in 1947. CPA approval was secured after considerable delay, and then Pittsburgh's trucking strike lasting 60 days made it impossible to deliver materials and machinery to the job. All materials were carefully selected in sizes, weights, and gauges to avoid critical materials that could be used in the construction of homes for veterans or housing projects. This meant searching many markets.

The equipment which is used in a specially constructed penthouse on the roof of the building, was hoisted on Sunday so that street traffic was not disturbed.

The Limbach Tempatrol Co. is the exclusive distributor of Chrysler Airtemp equipment in metropolitan Pittsburgh. This entire job was designed and installed with their own shop facilities.

Shreveport Contractors Elect Otto President

SHREVEPORT, La.—A. H. Otto was elected president of the Air Conditioning Refrigeration Contractors' Association at a recent meeting.

Other new officers are: E. J. Kearby, vice president; Walter Free, treasurer; and Robin M. Hood, secretary.

According to Otto, a main objective of the association is the organization of a local chapter of the A.S.H.V.E. The group also is working toward a city code.

1948 LEADERSHIP IN EVERY FEATURE

Evaporative Kooler-aire will have for 1948 selling the industry's leading unit and the recognized "Magic-Worker" in the comfort cooling field. Kooler-aire dealers will be in a position to offer better performance, low maintenance and lower daily costs for the superior results delivered.

1 In '48 Sell Separate Washer and Blower Section

The water section is a separate, completely rust resistant unit containing the water supply tank, Gyro-Spray assembly and dual mats. The tank is equipped with drain for quick and easy cleaning. The blower section is a separate unit and protected from moisture by the dual mats.

2 In '48 Sell Dual Mats

1948 Evaporative Kooler-aire units feature two sets of mats. This means no water slip-through, no water in the air-stream. More effective cooling and more comfortable air stream.

3 In '48 Sell Glass Yarn Mats

A proved glass yarn, an inorganic material is used for filter pad construction. The result is clean, odorless mats always free from algae and other organic growth... and completely fire-proof.

4 In '48 Sell Stronger Construction

The diagonal torque blower frames combined with bracing of double H construction, which have been added, insure sturdy and durable cabinet.

5 In '48 Sell Gyro-Spray

This "Magic-Worker" in evaporative cooling applies a whirling spray of water which keeps filter mats completely saturated and washed clean of dust, dirt and pollens. Practically eliminates mat clogging and cooling lag. A positive centrifugal pump recirculates water thus reducing water and sewage costs.

6 In '48 Sell Deflecto-Grille

It makes possible full directional control of air distribution. Both horizontal and vertical blades are individually adjustable — up, down, right and left.

7 In '48 Sell Modern Cabinet Design

Engineering and designing of the new Evaporative Kooler-aire has combined the washer and blower into an integral unit of advanced styling.

8 In '48 Sell Correct Installation

One of the greatest assets enjoyed by Evaporative Kooler-aire dealers is the cooperating engineering counsel of Kooler-aire's engineering staff. The talents of this group of experienced men are at your service to help in engineering the more complex installations. It's an asset worth using.

Right Now—Write for complete details on the 1948 Evaporative Kooler-aire Program. Learn how you can sell more and earn more with the "Magic-Worker" in Evaporative Cooling.

Evaporative Kooler-aire

UNITED STATES AIR CONDITIONING CORP.
3341 COMO AVE., S.E., MINNEAPOLIS 14, MINN.

United States Air Conditioning Corporation
3344 Como Ave. S.E., Minneapolis 14, Minn.

Please send me descriptive literature on the New 1948 Evaporative Kooler-aire.

NAME _____

ADDRESS _____

CITY _____

STATE _____

Triple Protection!

DFN DEHYDRATORS

Fight Moisture • Sediment • Acid
Protect against Freezeups • clogging • corrosion

See your jobber or write McIntire Connector Co. Newark 5, N. J.

EXPERIENCED MEN CAN SERVE YOU BEST

COMPLETE LINE OF REFRIGERATION SUPPLIES TOOLS AND ACCESSORIES

EACH MONTH THIS FELLOW APPEARS IN THE LIQUID LINE THE INDUSTRY'S OLDEST HOUSE ORGAN ARE YOU ON OUR MAILING LIST?

WEST COAST SUPPLY JOBBERS SINCE 1928

REFRIGERATION SERVICE INC.
3109 BEVERLY BLVD
LOS ANGELES 4 CALIF

IDEAL equipment MAKES THE JOB Easier

The New IDEAL VOLTAGE TESTER

NOT an ordinary "Glo" Type ... actually indicates voltages

A safe, sturdy, pocket-size voltage tester that tells instantly the nominal line voltage on an easy-to-read calibrated scale and whether AC or DC. A solenoid voltage indicator and a new test lamp—each functioning separately provide double protection. Heavily insulated test prods—sharp enough to pierce insulation—have 4-inch handles. Includes carrying case.

FOR TESTING

- ☐ Continuity of circuits
- ☐ 110 to 500 v. AC
- ☐ 110 to 600 v. DC
- ☐ Blown fuses
- ☐ DC Polarity
- ☐ Grounded side of line, motor or appliance
- ☐ Frequency (25 or 60 cycle)
- ☐ Excessive leakage to ground

FISH TAPE, REELS, PULLERS

Gives a sure, safe grip for pulling. Keeps tape reeled to avoid contact with "live" parts. Protects the hands. Eliminates slippage, kinks, bends or breaks.

"E-Z" STRIPPERS & CUTTERS

Clamps wire, cuts insulation and strips in one operation. For stranded or solid wire—will not crush stranded wire. Replaceable blades. Eliminates wire waste.

SAFE-T-GRIP FUSE PULLERS

Formed to fit the fingers—positive grip. Eliminates dangers of pulling and replacing cartridge fuses by hand.

IDEAL INDUSTRIES, Inc., Sycamore, Illinois

IDEAL

Distributed Through AMERICA'S LEADING WHOLESALERS

the Sanitary Quicfrez is Easy to Service!

With the Condenser Unit conveniently placed for quick access, servicing of the dependable QUIC-FREZ—Pioneer of Farm Locker Plants—is always an easy task.



Quicfrez Sales are Speedier—

—because people appreciate performance and quality features like these:

- 4 Roomy Storage Compartments for 75% greater convenience.
- 12½ Cu. Ft. Capacity—storing up to 600 lbs. of meat.
- Welded Steel Cabinet construction, with 5 inches of Glasswool insulation.
- Moisture-proof Sealing—preserves cabinet insulation.
- Low First Cost—economical daily operation.

Ask About SELECTED QUICFREZ DEALER FRANCHISES STILL AVAILABLE



SANITARY REFRIGERATOR CO.
FOND DU LAC, WISCONSIN
Farm Locker Plants Since 1939, Ice Refrigerators for More Than 40 Years

Less Steel Only Joker In Gibson's '48 Plans

CHICAGO—A diminishing supply of steel is the only thing that could possibly prevent Gibson Refrigerator Co. from turning out more electric refrigerators, ranges, and home freezers in 1948, midwest distributors were assured during a recent two-day meeting here.

In outlining plans for stepping up output, J. L. Johnson, Gibson sales manager, stressed the new production facilities available through acquisition of the plant in Belding, Mich., formerly occupied by Murray Corp. of America. He said this factory adds 150,000 additional feet of floor space.

"There is no lessening whatever in consumer demand for all the production of refrigerators, ranges, and home freezers which our company can produce at this time," Johnson declared.

"The backlog of demand resulting from lack of production during the war years, plus new homes building and to be built indicate a continuance of consumer demand for some time to come, even in excess of the ability of the entire refrigerator industry to produce."

Johnson said new features of the 1948 line will include a larger freezer-locker compartment in the refrigerator, a new upright home freezer, and a full new line of electric ranges with the "ups-a-daisy" unit for the deep-well cooker models.

The meeting was one of four being held in various sections of the country.

Rental With Option To Buy Proves Effective Sales Opener for California Appliance Dealer

LONG BEACH, Calif.—"Renting" major appliances to interested prospects with the option to buy has proved a more effective sales opener than the old "30-day free trial offer" idea, Howard's, large major appliance dealer here, has found.

Howard's, formerly an exclusive jewelry store but now one of the largest appliance dealerships in the city, first gave the idea a whirl last November. The firm offered electric ironers, dryers, and automatic washers to customers for a 21-day period at a \$2.50 rental fee. If the renter decides to purchase, the \$2.50 fee can be applied to the \$15 down payment.

Advertised through the newspapers and window signs, the offer drew an immediate response, according to a store spokesman.

"We have put many more machines out for actual home trial since the rental program was put into effect than when we sent them out for free 30-day demonstration," a salesman said.

"Customers have proven far more willing to give a new machine a fair try if they do not feel obligated to buy it. Therefore, the \$2.50 rental lets the customer give the appliance a try with the feeling that she is not imposing on the store, and that she may return it without hard feelings."

"Incidentally, housewives who rent the machines use them far more than those who in the past have experimented with them on a free trial basis."

When a customer signifies that she is interested in renting a machine, the salesman explained, an expert home demonstrator shows her how to use it right there in the store and tells her when she will receive it.

After the washer, dryer, or ironer is delivered, the demonstrator drops in on washday and gives the customer another demonstration.

Just before the rental period is up, a specialty salesman calls on the customer and tries to convert the rental into a sale.

This same idea will work out well with home freezers, refrigerators, dishwashers, and even package air conditioners, Howard's believes.

Electrical Radiant Heat Units Tested, Ready for Market

NEW YORK CITY — Electrical Radiant Heat Units built into an aluminum baseboard which requires no furnace have been tested and will be on the market, *McCall's* magazine will report to its readers in the National Newsletter feature of the January issue.

The entire control system for a home is contained in a metal box measuring about 18 inches square. It can be put in the garage, utility room, or some other convenient spot.

H. P. Johnson Elected Chairman Of Ann Arbor Appliance Group

ANN ARBOR, Mich.—H. P. (Jack) Johnson of H. P. Johnson & Co. here has been elected first chairman of the recently organized Ann Arbor Radio & Appliance Dealers Association.

The association, which covers both Washtenaw and Livingston counties, also elected J. R. Wylie of J. R. Wylie Sales, Howell, as vice chairman, and R. E. Jedele of A. F. Smith & Son, Ypsilanti, as secretary.

Let Automatic Washers Pay For Selves, Dealers Urged

CHICAGO—A novel twist to the self-service laundry idea, whereby the customer literally washes her way into ownership of a Launderall automatic home laundry, has been introduced in the metropolitan Chicago area by the Harry Alter Co., Launderall distributor.

As proposed to Launderall dealers in Chicago, the plan goes like this:

Dealers are urged to set up several Launderalls in their stores for use on a self-service basis, but restricted to prospective Launderall buyers rather than the general public. Rather than charge 35 cents or more for a full load of clothes, the fee is raised to \$1 per batch. However, all such money paid to the dealer is applied to the purchase price of a Launderall.

In about three months, the Harry Alter Co. figures, the customer will have accumulated enough money with her dealer to meet the down payment on the machine.

FRANK GLEN

BILL BUTLER

DON HUNT

PAUL NOBLES

Individuals

Individual men are the basic elements of America. Free men, free thinkers, vigorous do-ers who live by rivalry and love it for the opportunities it provides.

Individually, they do their best to out-do each other . . . grow the best tomato, catch the biggest fish, win the highest honor. Yet collectively, sharing a common objective, they do their best to help each other to put the "team" on top. They thrive on competition. They're lost without. Theirs is the spirit and the strength of America.

Frank Glen, precision bore operator . . . Bill Butler, hermetic assembly man . . . Paul Nobles, grinder operator . . . Don Hunt, diamond bore operator . . .

Four individuals in an individualistic state. Four free men in a free economy. Four top-notch production workers at . . .



TECUMSEH PRODUCTS COMPANY
Tecumseh, Michigan

Look to JOHN LEES for Mouldings of Quality

Gear your products to win over stiff competition. Precision designed and fabricated stainless steel mouldings are the easiest and least expensive means of swaying consumer preference to your products. Look to mouldings by John Lees to provide lasting beauty and BUY appeal. John Lees mouldings may be formed for an unlimited variety of applications. Hundreds of standard shapes available.

We will furnish recommendations and estimates on your rolling, forming and polishing needs without charge. Send for catalog and circular describing our new ELECTROLYTIC polishing process.

JOHN LEES

DIVISION OF
The SERRICK Corporation
MUNCIE, INDIANA, U. S. A.

FRESHENER

VEGETABLE

Wage-Hour Position of Commercial Contractors May Soon Be Clarified

WASHINGTON, D. C. — Exact status of commercial refrigeration contractors under the Fair Labor Standards Act (wage-hours) may be clarified in the near future, according to Nathan Edelstein, recording secretary of the National Association of Refrigeration Contractors, who appeared at a hearing of the Wages and Hours Division here.

Representing N.A.R.C. and the New York Refrigeration and Air Conditioning Guild, Inc., Edelstein asked Wage-Hour officials that commercial contractors be exempted from coverage by the act in either of the following two cases:

(1) Where a commercial refrigeration contractor receives his supplies and materials from a wholesaler within his home state and his customers are not in interstate commerce or producing goods for interstate commerce; and

(2) Where a commercial refrigeration contractor does receive parts and materials from out of his home state and less than 50% of his customers are doing interstate business.

The N.A.R.C. representative further told the hearing that "the legislative intent which can be gathered from the debate preceding the adoption of the law . . . definitely indicates that Congress intended to exempt small businessmen who were essentially doing a local business."

Wage-Hour officials did not agree with this opinion, according to Edelstein, who added that a future conference may be held to clarify the status of commercial refrigeration.

Household refrigeration is exempt from coverage under 13 (a) (2) of the act, and industrial refrigeration is generally covered because most industrial refrigeration customers are in interstate commerce, he said.

Cory Announces Boost In Coffee Maker Prices

CHICAGO—Small price increases on some domestic and commercial coffee makers and replacement parts manufactured by Cory Corp. will become effective on Jan. 1, J. W. Alsdorf, Cory president, has announced.

Increasing costs of both labor and materials were given as reasons for the price hike.

Seven models of domestic coffee makers and 20 models of commercial units are affected. So are upper and lower bowl replacement parts for them. On the domestic coffee makers, the advance ranged from 20 to 50 cents.

A new 10 to 12 cup rubberless model domestic coffee maker, just added to the Cory line, will be priced at \$6.95, according to Alsdorf.

Cory distributors were notified of the coming price advance on Dec. 1 so that they could pass the information on to dealers well in advance of the actual increase, he explained.

Detroit ASRE To Hear Penrod

DETROIT—Prof. E. B. Penrod of the University of Kentucky, an authority on the heat pump, will present an illustrated lecture on the subject before the Detroit Section, American Society of Refrigerating Engineers Monday evening, Jan. 5, at the Rackham Educational Memorial.

Lipman
AUTOMATIC REFRIGERATION

PIONEERS in the refrigeration field since 1917 LIPMAN Machines give dependable service, low cost operation. Designed for use with Methyl Chloride, Ammonia, Freon 12. Units are available in sizes from 1/4 thru 40 H.P.



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YATES-AMERICAN MACHINE CO., Beloit, Wisconsin

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The ARTKRAFT BEV-FOOD

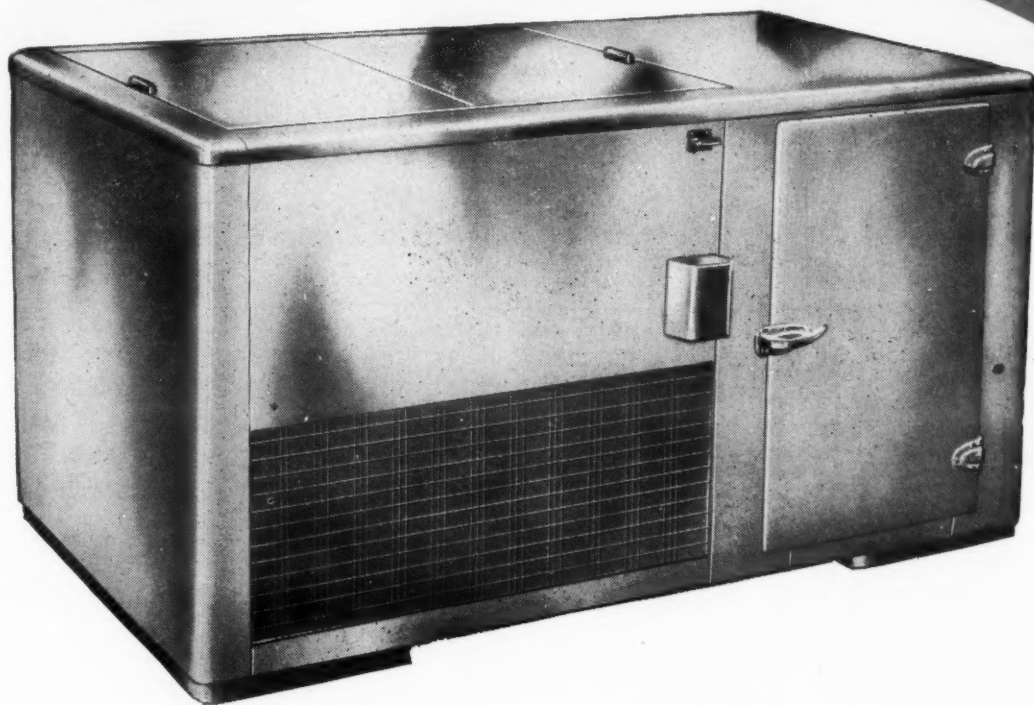
A High Quality, Self-Contained "Plug-in" Unit

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• OFFERS THE LOWEST COST PER CUBIC FOOT USABLE REFRIGERATION SPACE IN THIS SIZE RANGE.

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• TOP OPENING PREVENTS "SPILL-OUT" OF COLD



IDEAL FOR:

RESTAURANTS	HOSPITALS
ROADSIDE STANDS	SODA FOUNTAINS
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TAVERNS	DELICATESSENS
FISH MARKETS	CANDY STORES
FACTORY CAFETERIAS	DRUG STORES

SPECIFICATIONS:

Sealed cabinet: 65 3/8" x 38" x 29 1/2"
Solid 3" insulation—Vermin-proof
Top compartment: 35 3/4" high x 20 3/4" wide x 15 1/2" deep (Slightly over 6 1/2 cu. ft.)
Food compartment: 21 1/4" wide x 28 3/4" high x 20 3/4" deep (Slightly over 7 1/2 cu. ft.)
Total storage capacity: 14 cu. ft.
Finish: Exterior—Silver Blue
Interior—Porcelain enamel
Top and 2 sliding covers, stainless steel
Condensing Unit: 1/4 H. P., twin-cylinder air cooled
Equipped with Tecumseh, Universal Cooler, or Copeland unit
Motor: 1/4 H. P., 60 cycle, single phase, 1750 r.p.m., 110 volts, capacitor type
Refrigerant: F-12 Freon
Automatic light in food compartment
8-point cold control

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Ask your distributor for this great profit-maker—or write us for his name. Distributed in many areas by G. E. Supply Corporation.

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Quality Products for more than a Quarter of a Century

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They'll Do It Every Time By Jimmy Hatlo



ANOTHER REASON WHY RESTAURANT PRICES ARE UP—
THANK TO JOHN PELLEGRINELLI, HOLLYWOOD, CALIF.

Do You Have 'One Foot In the Door'?

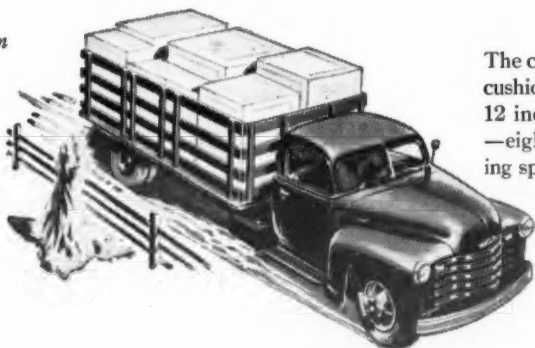
Count on ADVANCE-DESIGN TRUCKS

—to cut your costs . . .
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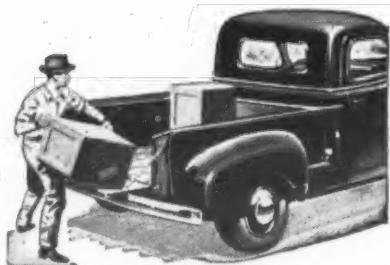
CHEVROLET

Chevrolet Advance-Design trucks cost you less—to buy . . . to run . . . to keep! Here is the only truck that provides the comfort of a cab that "breathes" and other fine, new features that are better for you—and your business!

*Fresh-air heating and ventilating system optional at extra cost.

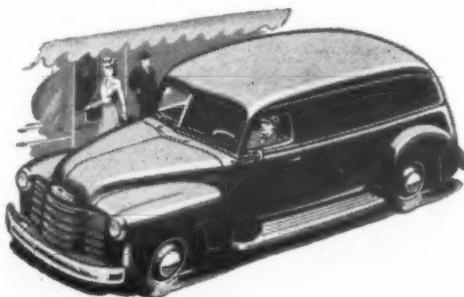


The cab is Flexi-Mounted, cushioned on rubber—with 12 inches more foot room—eight inches more seating space and fully adjustable seat! There's 22% greater visibility, too!



Here are stronger new frames, longer wheelbases. New, rear-corner windows, which provide even greater visibility. (Optional at extra cost.) Pick-ups and panels have increased load space.

Streamlined in body, cab, fenders and hood, they're bigger, better-looking with Advance-Design! Chevrolet truck brakes are specially designed for greater brake-lining contact.



Premium power! The Chevrolet Valve-in-Head Truck Engine is the world's most economical for its size. See these trucks today—at your Chevrolet dealer's.

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VOLUME 53, No. 1, SERIAL No. 981, JANUARY 5, 1948

HERE'S AN OPEN-LETTER Message to Brand-New Appliance Dealers

DEAR Mr. New or Prospective Appliance Dealer:

Provided you haven't been scared out of entering—or returning to—the field of specialty appliance retailing by the mushroom growth of chain stores; and provided the lugubrious warnings of government economists haven't frightened you further, it would be wise to investigate before you blow in your hard-earned saved-up dough by investing in a major appliance franchise.

What qualities in yourself and in your organization should you look for during that period when you are trying to decide whether or not to take the plunge into the roughly competitive appliance merchandising business? Here are some pertinent questions:

Do you know what you are doing? Are you properly informed? Do you read AIR CONDITIONING & REFRIGERATION NEWS and other helpful publications religiously every week? Have you or your associates collected enough experience in this competitive business to hold the boat steady during rough weather?

Do people like you? (Remember, warm personal relations often beat impersonal price-shaving or product-advantages.)

Can you afford to maintain a stock sufficient to fill all orders which you can sell, or which may come your way?

Have you a location which is conveniently accessible to those customers you hope to sell?

Do you enjoy the retailing business? Are you prepared to laugh off its inherent headaches, and to return the next day with buoyant spirits?

Are you a canny buyer of the things you will promote? Are you prepared to fend off the salesman of white elephants? And do you know a white elephant when you see one?

Have you generally enjoyed a reputation for being fair, honest, and dependable in your community or neighborhood?

Can you finish a job, once you have embarked upon it—even though it means working far into the night, and sacrificing planned pleasures and recreation?

Are you willing to be guided in your emotional reactions by the reasonable danger-signals which your bookkeeper will show you?

Can you exercise sound judgment when your "wits are at an end"? Do you come up quickly with life-saving ideas during emergencies?

Are you ossified in your habits and ruts of thinking, or are you quick-on-the-trigger with new solutions to old problems when things go wrong?

Do you cross bridges before you come to them? (In business, you should, despite the negative connotation of the old adage.)

Are you quick to present a new idea when old formulas come a-cropper?

If so, my son, you'll be a Big Man in this game. Specialty merchandising, like stock brokerage, publishing, and horse-racing, is a gambling business.

It calls for brave men.

And for men who are willing to take a chance.

Selling home appliances is no hayride. It's a tough competitive battle. And "coat-tail riders" don't last long.

But if you've got what it takes, well—it's a great life—and a rewarding one.

DEPENDABILITY

JOB-PROVED SINCE 1939

**That's Your
Performance
Record on this
Model 207
THERMOSTATIC
EXPANSION VALVE**



A-P Model 207 — Adjustable Superheat.
Capacity — $\frac{1}{4}$ to $\frac{1}{2}$ ton Freon-12, $\frac{1}{2}$ to
1 ton Methyl Chloride or Sulphur Dioxide.

• For over eight years one of the largest selling Thermostatic Expansion Valves, the A-P Model 207 (half-ton) has proven itself in literally millions of refrigerant lines . . . in all types of equipment from low to high temperature applications. Popular as original equipment on leading small-tonnage units, Model 207 is today also the favorite replacement valve with thousands of critical refrigeration service engineers — who have proved its Dependability in the field.

Capable of maintaining constant superheat at all suction temperatures, from minus -40° up to usual air conditioning temperatures, A-P Model 207 has an amazingly wide range of application. It's good "performance insurance" for commercial display cases, beverage coolers, small walk-in and reach-in boxes, florist boxes, ice cream dispensing and hardening cabinets, food freezers and all similar small units ($\frac{1}{4}$ to $\frac{1}{2}$ ton Freon-12). And in every one of these applications you can depend on the Model 207 to provide longer trouble-free service, supersensitive response, greater accuracy, closer superheat control, and the kind of control dependability that means customer satisfaction and reduction of needless callbacks.

Standardize on the A-P Model 207 Thermostatic Expansion Valve for all your small-unit needs. With its liquid charged power element it can be installed in any position or ambient temperature, and is easier to adjust, inspect and service. Use it — to your profit.



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PITTSBURGH 20, PENNA.

3,530 ft. of Appliances Shown by New York Store

ROCHESTER, N. Y. — E. W. Edwards & Son's new, modern appliance center, at St. Paul and Division Sts., opened recently.

The new shop will carry one of Western New York's largest selections of appliances, according to T. F. Lemm, vice president and general manager of the store.

He pointed out that the 3,530 ft. of floor space is scientifically designed to permit the display of large quantity of items. Indirect lighting has been installed in the center to make shopping easier for the customers.

Lowry & Curry Home Appliances Opens Up In Bell, California

BELL, Calif. — Lowry & Curry Home Appliance Co. is the firm name under which K. J. Lowry and Virgil Lowry have published a certificate that they are conducting business at 3926 East Florence Ave., Bell.

2 of 5 Proposed Detroit Code Changes Require Receivers Meet ASME Standards

By George M. Hanning

DETROIT—Revisions to the refrigeration code of the city of Detroit that would plug a loophole, clarify two paragraphs, and make a third paragraph conform to standards set by the American Society of Mechanical Engineers have been proposed by J. C. Rehard, chief safety engineer for the city.

The changes are being brought up at this time because a new printing of the code will be required in the near future and the proposed alterations should be included in it, Rehard explained.

Paragraphs affected are 13:11, 13:12, 13:32, 13:33, and 13:35.

The first two, 13:11 and 13:12, have given the city's safety engineering department trouble for some time, Rehard said. As they stand now they require the city to accept equipment and refrigerant containing vessels that bear only the Underwriters' Laboratories, Inc. stamp of approval.

The proposed revisions call for all refrigerant containing vessels to be constructed to meet A.S.M.E. boiler construction code standards except those less than 6 in. in diameter or with less than 5 cu. ft. capacity when designed for pressure not in excess of 250 p.s.i.

The clarification of paragraphs 13:32 and 13:33 would insert the words "under fire conditions" in discussing the discharge capacity of rupture members and discharge piping in pounds of air per minute. In the past there has been confusion

on this point in the minds of refrigeration contractors using the table of capacities listed in the code, Rehard explained. The meaning of the paragraphs has not been changed, he added.

The last paragraph 13:35, would be revised to reduce the allowable operating pressure of pressure relief valves for refrigerant containing vessels from 25% above design working pressure to the maximum allowable working pressure stamped on the vessel.

This latter change will merely bring the Detroit code into accord with A.S.M.E. regulations to which the American Society of Refrigerating Engineers has already announced its agreement, he stated.

Rehard has agreed to discuss the proposed changes with the Refrigeration Contractors Association of Detroit at that group's January meeting before submitting them to the city council for approval.

WORKING WITH ENGINEERS

In making these changes, Rehard asserted, the safety engineering department wants to work with the people who will be governed by the code.

Rehard explained at length how the proposed revisions of paragraphs 13:11 and 13:12 will plug a loophole in the code.

He said that under the testing methods used by Underwriters' Laboratories, only one pressure vessel picked at random was tested for its ability to withstand pressure. The test did not take distortions of the vessel into account at all. On the basis of the one test, a whole batch of vessels would be approved, he said.

"We do not want pressure vessels installed in Detroit that we know nothing at all about," Rehard said. By having all refrigerant containing vessels comply with A.S.M.E. standards, the department knows that they have been carefully and adequately tested, he indicated.

SMALL VESSELS GENERALLY SAFE

Rehard admitted that vessels less than 6 in. in diameter or with less than 5 cu. ft. capacity can be hazardous. But, he stated, the chances are very rare that they will be.

Manufacturers of such vessels, he said, have exercised great care in making their products safe and as long as they continue to do so, there is no reason to regulate them.

"However, if some wiseacre decides to manufacture equipment that does not come up to standard, we may have to change the code again to meet that condition," he averred. "At present, though, it is not necessary."

Text of the proposed revisions follows:

13:11 All refrigerant containing vessels shall be constructed in ac-

cordance with the requirements of Section 8 (Unfired Pressure Vessels) of the A.S.M.E. Boiler Construction Code of 1946 with 1947 addenda and shall bear the A.S.M.E. symbol as required in that Section, except as provided for in Paragraph 13:12.

13:12 Equipment and pressure vessels currently listed by the Underwriters' Laboratories, Incorporated, will be accepted as meeting the requirements of Paragraph 13:10, provided such pressure vessels are not more than six inches (6") in diameter or their volume does not exceed five (5) cubic feet when designed for pressures not in excess of 250 p.s.i.

13:32 The minimum discharge capacity under fire conditions of rupture members and discharge piping shall be as given in Table 2.

[Table 2 will be entitled as follows:]

Discharge capacity of rupture members and discharge piping in pounds of air per minute under fire conditions.

13:33 The minimum required aggregate rated discharge capacity of pressure relief devices for a refrigerant containing vessel shall be determined by the following formula:

[In the explanation of the formula $C = fDL$, the definition of C was changed as follows:]

C —Minimum required rated discharge capacity of the relief devices in pounds of air per minute.

13:35 All pressure relief valves or devices for refrigerant containing vessels shall be set to operate at not to exceed the maximum allowable working pressure stamped on the vessel and not more than the test pressure shown in Table 3, Section 14.

S. E. Lauer Re-elected Vice President of NAM Eastern Region

NEW YORK CITY—S. E. Lauer, president of York Corp., has been re-elected Regional Vice President of the National Association of Manufacturers, and will continue to direct the activities of NAM in that great manufacturing region comprised of the states of Delaware, Maryland, New Jersey, Pennsylvania, and West Virginia.

Lauer, who was born in York and is an alumnus of the University of Pennsylvania has been with York Corp. over 30 years, serving variously as sales engineer, branch manager, general sales manager, vice president, and president. He is presently a member of the Advisory Committee of the National Rivers and Harbors Congress, a member of the American Standards Association Council, a member of the Advisory Committee to the Executive Committee of Machinery and Allied Products Institute (MAPI), Chairman of the Executive Committee of the Air Conditioning and Refrigeration Machinery Association (ACRMA), and a member of the American Society of Refrigerating Engineers (ASRE) of which he was recently declared a lifetime member by reason of his 30 years of membership in the Association.

Refrigeration - Air Conditioning - Heating - Parts and Supplies

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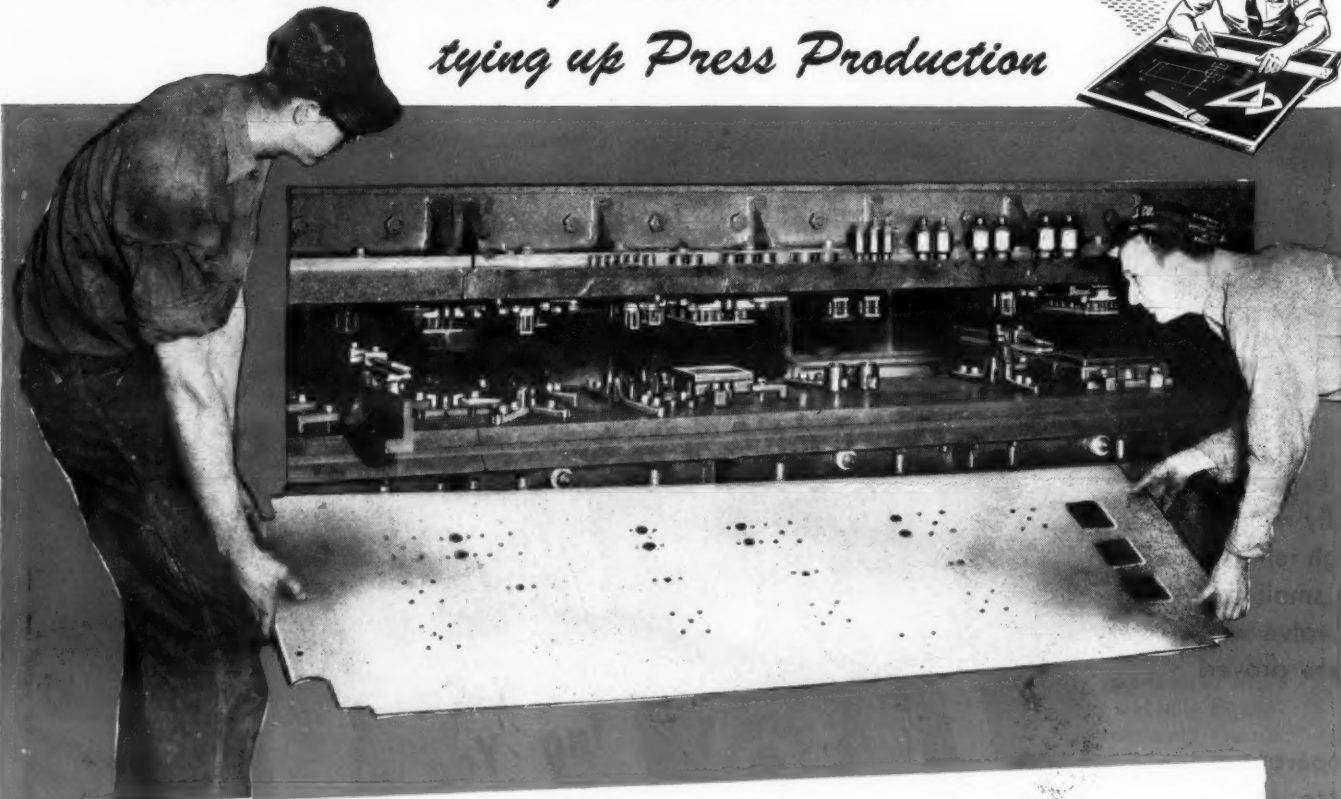
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BUY FROM THE WHOLESALE THAT PLAYS BALL WITH YOU
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Meet sudden change-orders without
tying up Press Production



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ADJUSTABLE PERFORATING DIES

quickly and easily
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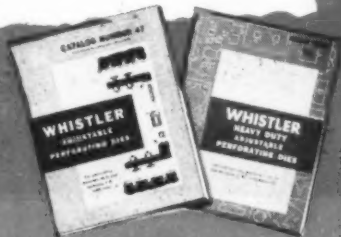
Change-orders from the engineering department usually cause plenty of headaches in production... particularly where die piercing operations are involved.

But...if you're using Whistler Adjustable Dies, there is no lost time—no waiting—no extra die expense. The same dies are easy to rearrange to the new design. Add units from stock, or delete sizes and shapes no longer required. Arrange the new set-up right on the press.

Consider the savings in production time alone. Then think how continued re-use of the same dies in subsequent jobs writes off first cost.

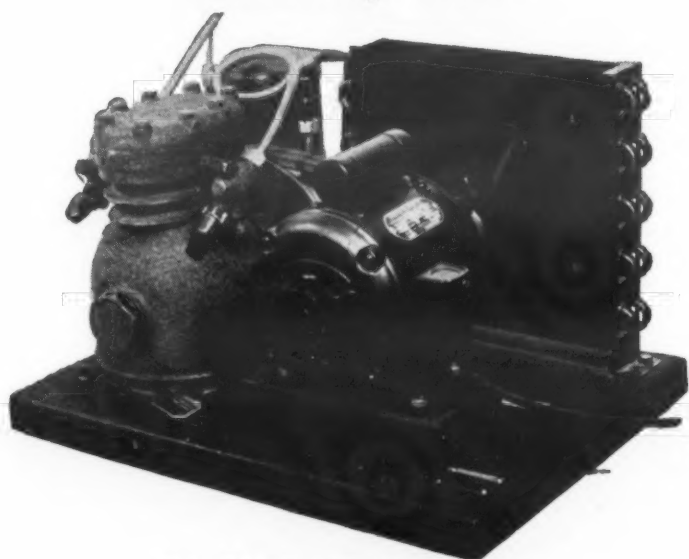
Whistler Dies can be used in practically any press. All parts are interchangeable. Precision is assured on long or short runs. Closer centers permit fewer press operations.

Deliveries are quick... little or no waiting. Standard round punches and dies up to 3" are available from stock. Ovals, squares, rectangles and special shapes can be made up in a few days. Write for the Whistler Catalogs today and get all the facts.



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738 MILITARY ROAD
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MULTI-COLD Condensing Units



COMPACT AND EFFICIENT

Now furnished in
1/8, 1/4, 1/2, and 3/4 H.P. Sizes

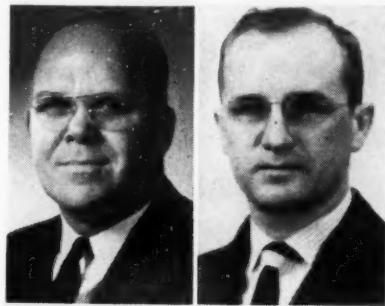
Write for circular and Information

MULTIPLEX MFG. CO. BERWICK, PA.

Servicemen Attend Educational Program



Part of the audience of approximately 75 Akron RSES members who were on hand for the Universal Cooler presentation of its sales and service program.



LEWIS HAMLIN NED SEBRING

Hamlin, Sebring Named In Redmond Promotions

OWOSSO, Mich.—Redmond Co., Inc., here, manufacturer of low-range fractional horsepower electric motors, has announced the appointments of Ralph Redmond as director of sales, Ned Sebring as director of purchasing, and Lewis Hamlin as executive vice president.

Redmond, vice president and treasurer of the company since 1944, had been director of purchasing; Sebring was assistant to the director of purchasing; and Hamlin vice president in charge of plant operations.

Redmond, who retains the position of vice president and treasurer with his transfer, has been with the organization since 1925.

Sebring joined Redmond in 1932 and served during the ensuing years as supervisor in the shipping, receiving, stock, material control, and planning departments.

Hamlin came to the company in 1936 from the experimental department of Marvel Carburetor Co.

Universal Cooler Presentation Explains Best Ways of Handling Parts for Repair

MARION, Ohio—A new educational program designed to better acquaint the entire refrigeration service field with its products and sales and service policies has been prepared by Universal Cooler Division of International Detrola Corp. here.

The program was inaugurated at the December meeting of the Akron Chapter of the Refrigeration Service Engineers Society before approximately 75 members.

A large "easel" is used in staging the combined sales and service program. Easel pages are devoted to following Universal Cooler projects during its part of 25 years in the refrigeration industry.

One section of the presentation compares photographs of the first refrigeration condensing units with the division's latest models in open-type self-contained, open-type remote, and hermetic units.

Another section pictures the main Universal Cooler plant, the service building, the condenser plant at Bellefontaine, and the Canadian plant.

These pictures are intended to show dramatically the progress of the concern through the years.

Still another section is to familiarize servicemen with the hundreds of types of products which use Universal Cooler condensing units for refrigeration power. To do this, the advertising and sales promotion department obtained descriptive literature from customers and displayed the finished products on the easel pages. Names of the majority of customers are included on the sheets.

IDENTIFY PARTS

The service department is utilizing the program to better acquaint servicemen and parts jobbers with the identity of various types and styles of Universal Cooler compressors in the field. Details are also given as to the proper procedure in returning compressors and other parts for repair.

A gasket chart suggests the best method of displaying UCD parts gaskets. Another table shows what conversion kits are available for modernizing outmoded compressors. Other pages portray the division's service policy and service pointers and designate locations of its approximately 161 authorized parts jobbers throughout the nation.

The program was prepared through the cooperation of the sales, service, and advertising and sales promotion departments. It was designed to enable any one of UCD's field service engineers to present it in any locality with the aid of a service department representative.

PROGRAM PLANS

At the RSES meeting in Akron, the program was handled by Ed Halsey, of Universal Cooler's sales department, and A. E. Weber and J. J. Croushore, of the service department. Company literature and the UCD six-inch pressure-temperature chart rule were distributed.

C. M. Hatcher advertising and sales promotion manager, said that more than three months were spent in research for and preparation of the program.

"Already we have numerous inquiries and requests to visit other meetings and present it," he added.

ATTENTION JOBBERS!! Capable Assistant Available Soon

10 years experience in counter sales, purchasing & inventory controls, general office management—even disposition—excellent sense of humor—single—free to locate any place in USA.
Box 2626, Air Conditioning & Refrigeration News



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Bronx 57, N. Y.

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Removes rust, carbon and sludge from metals

Absolutely no loss of tolerances. Non-evaporative. No dangerous fumes. Safe to handle. Fast action. Can be used over and over. No corrosive action. Cleans stuck up pumps in a jiffy. Cleans valves and seats without relapping. Does not harm rubber. Removes porcelain stains. Can be used as a pre-cleaner for soldering.

YOU MUST SEE IT WORK TO BELIEVE IT

See your local jobber for "LIGHTNING"

if he cannot supply you send us his name and address



**NO
ADDITION!
NO
SUBTRACTION!**

Just Glance at this Direct-Reading Scale on the Penn 270 Series Control

No addition... No subtraction... you set the "cut-in" and "cut-out" points directly with this simple "sight-set" calibrated scale. Never before has it been so easy to make required adjustments. Never before has an air conditioning and refrigeration control embodied so many *plus* values as the PENN 270 Series offers.

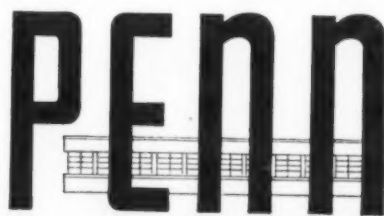
For the first time here is a control with a *load-carrying, 2-pole construction*—actually two switches in one. And you pay no premium for this extra value.

No wonder the PENN 270 is the talk of the industry. For versatility of appli-

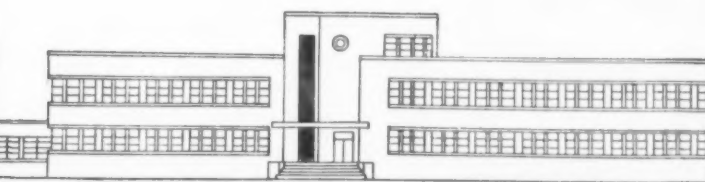
cations, for simplicity, efficiency and dependability this control sets a new high standard. Write now, for the complete story, in Bulletin 2652. **Penn Electric Switch Co.**, Goshen, Indiana. Export Division: 13 E. 40th Street, New York 16, U. S. A. In Canada: Penn Controls, Ltd., Toronto, Ontario.

IN BOOTH 1011 AT CLEVELAND

The PENN 270 Series will be featured in our display at the 5th All-Industry Refrigeration and Air Conditioning Exposition, Jan. 26-29.



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FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

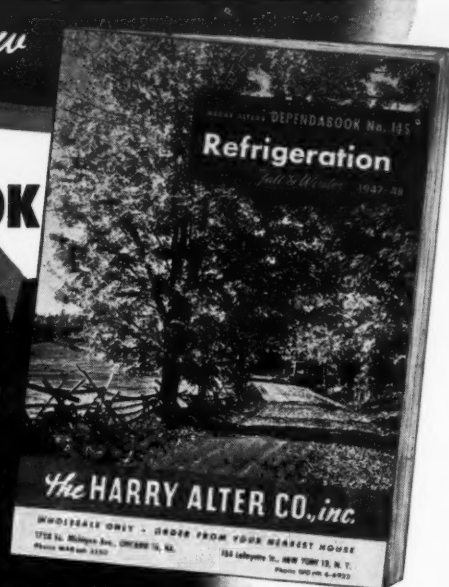
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**REFRIGERATION,
AIR CONDITIONING and
ELECTRIC MOTOR
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WE wish to publicly thank the very kind gentlemen from Texas who sent us the following lovely Christmas gifts—

1 Bushel of Oranges and Grapefruit.

1 Case (48 cans) of Ranch Style Beans

THANKS ★ ★ ★ THANKS ★ ★ ★ THANKS

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HIGH EFFICIENCY

WATER FILTERS



TASTES AND ODORS VANISH

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Several choice areas available for manufacturers' representatives.

FILTRINE MANUFACTURING CO.
53 LEXINGTON AVE., BROOKLYN 5, N.Y.

Manufacturers of Coolers & Filters for over 40 Years

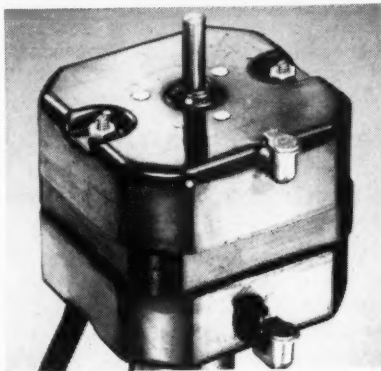
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... say many CHASE customers. Big orders, medium orders—yes, even tiny orders—all receive close, personal attention. Customers on our books are more than mere names—they are friends; the kind of friends who have made "Good Will" the greatest asset in our business.

CHASE refrigeration supply co. INC.
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What's New

Type 300 Motor Introduced By Russell Electric Co.



CHICAGO — The new Raytheon type 300 motor, being introduced by Russell Electric Co. here, is claimed to combine high starting torque with high efficiency and flexibility.

A very low external field is realized by the large amount of iron contained in its core. A precision dynamically-balanced rotor, kept accurately centered and aligned by a rabbeted 3 in. square stator, is said to assure extremely quiet operation.

Other design features include self-aligning wick-fed oilite bearings with large oil reservoirs, precision oil slingers, and two internal cooling fans.

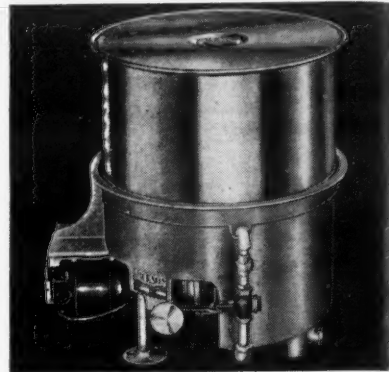
With h. p.'s ranging from 1/150 to 1/40 and starting torques as high as

10-ounce-inches, the Raytheon type 300 is available in open or totally enclosed construction, for vertical or horizontal operation, on 50, 50/60, and 60 cycles, at any voltage up to 250.

Home Dishwasher Works Like Commercial Models

CLEVELAND — Jackson Dishwasher Co. here has introduced a new home dishwasher said to have the same principle of operation as its commercial models, which have been in use since 1925.

Wash sprays revolving in opposite directions are said to spray water under high pressure over every surface of dishes, glasses, and silverware. Rinsing is accomplished by revolving rinse spray employing clean water. About one minute is given as time required for the entire operation.



Jackson home dishwasher.

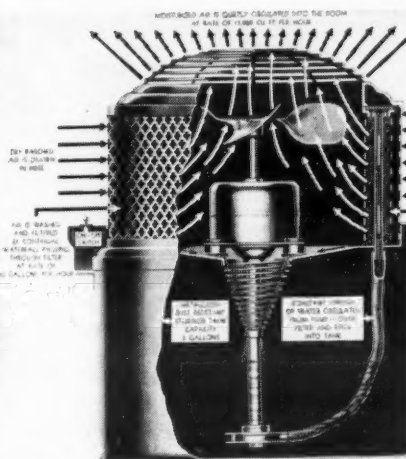
The wash reservoir requires 2 1/2 gal., while only one gal. is needed for rinsing, according to the manufacturer. City water pressures do not affect the operation of the washer as the unit's own motor operated centrifugal pump controls the pressure.

Two baskets—one for dishes and one for silverware and glasses—are standard equipment.

Mounted with the cover flush with the drainboard, the unit is semi-concealed.

Electric immersion heater and thermostat control are optional.

Humidifier Draws Air Through 'Circular Waterfall'



CHICAGO—"Waterfall" action that filters, washes, and moisturizes the air is a prime feature of the new Fresh'nd-Aire Humidifier Model 600. Manufactured by the Fresh'nd-Aire Co. here, the unit sets up a moisture

curtain by pumping water from a three-gallon reservoir in the base of the humidifier into a water distributing ring around the top and thence out through numerous holes in the ring. This water falls down through a fibrous filter.

Thus, as the water filters through, air, drawn by the motion of the humidifier's fan, passes through this circular waterfall, washing out all dust, dirt, pollen, smoke, and other impurities. The air which subsequently emerges from the top of the unit is completely clear and humidified, the manufacturer points out.

Approximately 13,000-cu. ft. of moisturized, washed air can be dispersed by the Fresh'nd-Aire Humidifier during an hour's time, it was stated.

'C-Thru' Plastic Lids Make Cabinet Stock Visible



NEWARK, N. J.—A transparent, plastic, "flip-flop" lid for refrigerated cabinets, designed to make a display case out of a normal storage cabinet, is now being manufactured by the Thermacote Co. here.

Made to fit all popular makes of cabinets, the lids are constructed of molded plastic material with aluminum and rubber hinges and knobs. Known as C-Thru lids, they are said to give service comparable to conventional cabinet lids when

exposed to the usual shocks and abuse. They provide proper insulation and, because of a hermetic seal, will not fog or cloud.

Through use of the lid, according to the manufacturer, frozen foods and ice cream are placed in full view of the customer, permitting her to serve herself. The dealer, too, can check the assortment of foods in the cabinet at a glance.

Besides its office here, the Thermacote Co. has offices in Los Angeles and Portland, Ore.

Welker Supply Co. Shows New Low-Price Video Set

DETROIT—Said to be the lowest-priced television set on the market, a new Halli-crafter set with a 5 by 6 1/4-in. screen is being introduced to dealers here in Michigan by Welker Supply Co., distributor of Halli-crafter and such appliance lines as Desp-freeze and Monitor.

The new set lists at \$169.50 (plus \$30 for installation and a year's service) and will be handled by 75 dealers throughout the state, according to Frank J. Brady, vice president and general manager of Welker.

In about five or six months Halli-crafter also plans to introduce a television set with a 10-in. tube which will retail for about \$250.

An estimated 4,000 television sets are now in use in the Detroit area.

Evaporator LINERS AND PLATES

engineered to fit
your requirements

In addition to a complete line of stock sizes of plates, shelves and plate banks, Yoder engineers and builds to order plates and liners for all kinds of food freezer cabinets, processing tanks, display cases, beverage and ice cream coolers and dispensers. We offer cooler and freezer manufacturers engineering service and estimates, to work out with them the most efficient and economical answer to their special problems. You may consult us freely, without cost or obligation.

The Yoder basic plate design is the most efficient yet devised—giving the maximum prime heat pickup surface per square foot, as proved by the K-factor—2.5 for temperatures below 20°F—the highest obtainable with any evaporator plate.

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5580 WALWORTH AVENUE, CLEVELAND 2, OHIO

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**REFRIGERATION
PLATES**

LINERS • SHELVES • PLATE BANKS

sell the cabinet
that's designed to sell
MORE FROZEN FOODS



The
**GOODSELL MODEL
SS8 FROZEN FOOD DISPLAYER**

is designed to meet the needs of the independent food merchant.

HERE'S PROOF:

1. REFRIGERATED DISPLAY WINDOW for display of opened up packages. Attracts attention. Stimulates impulse buying.
2. SELF CONTAINED 1 1/2 H.P. CONDENSING UNIT mounted beside display window, does not take up floor space.
3. SLIDING GLASS LIDS, which may be removed during busy hours. Greater accessibility to food.
4. Goodsell OVERHEAD COILING avoids rapid softening of the top layer of food.
5. LOW OPERATING and MAINTENANCE COST.
6. 21 CU. FT. CAPACITY—holds 700 average packages of food.
7. CABINET ONLY 68" LONG—requires very small floor area.

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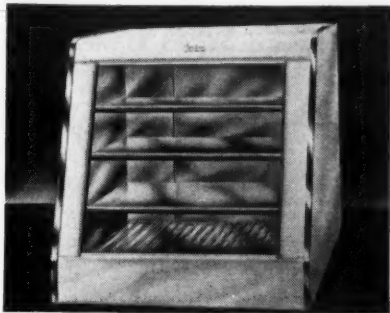
What's New (Cont.)

Companion Piece to the Laundromat



This new Westinghouse automatic electric clothes dryer is said to "know" when the clothes are dry, through a thermostat that is responsive to the amount of moisture in the clothes. Drop shelf door makes a handy loading platform.

Full-Vision Cases In Jordon '48 Line



PHILADELPHIA — Jordon Refrigerator Co. is now in production on the latest addition to its 1948 line, a full-vision display case to be available in 4 and 6-ft. sizes, the firm reported.

The factory is scheduled to begin shipping showroom samples of the new models, FV4 and FV6, immediately after the first of January.

According to Jordon, features include porcelain top and front, polished stainless steel interior shelves, 4-in. "job selected" insulation, and all-welded, heavy-gauge, vapor-sealed construction.

The interior is illuminated with a full-length fluorescent light included as standard equipment and the exterior electric switch has an extra utility outlet for attaching other electrical equipment, it was announced. The entire interior is visible through triple-thick, non-fogging thermopane glass.

Large doors in the rear are said to permit easy and quick restocking and servicing.

New Westinghouse --

(Concluded from Page 1)

his own store," it was explained by Vale Freeland, manager of department and furniture sales.

Westinghouse's new clothes dryer, which will be introduced nationally next month, is styled as a companion piece to the Laundromat automatic washer and is in an all-white cabinet of identical size and shape. The new water heaters are said to embody the first major changes in design and features since the war.

"Both new products are now in production and will be made available in key cities throughout the country as production volume increases," Newcomb said.

The dryer will handle a full load of wet clothes and fluff-tumble them damp dry or completely dry by setting only one dial, according to I. Frank Brownson, manager of the laundry equipment department.

Brownson said the unit is controlled by a thermostat that is responsive to the amount of moisture in the clothes. He pointed out that the size of a load of clothes makes no difference to the thermal control except that it will shut off the machine in less time with a small load than with a large one.

The basket or drum in which the clothes are fluff-dried is finished in a baked, white synthetic enamel. The drum rotates 50 revolutions a minute and has formed-in vanes and perforated holes between the vanes to give a strong, rigid basket with a smooth inside surface.

Drying time varies depending on the type of clothes, the size of the load, the amount of moisture in the clothes, degree of dryness required, and the relative humidity, Brownson explained. On the average, he said, a nine-pound load from a Laundromat will be damp-dried for ironing in 35 minutes and completely dried for storage in about 60 minutes.

Features of the dryer include an inclined loading chute and a drop shelf door that doubles as a loading platform. It has a lint trap and can be vented directly to the outside. It will operate on alternating current only and requires a 230-volt three wire system.

Outstanding features of the new water heater line were listed as anti-corrosion "Tank Guards," streamline styling, and a 10-year protection policy. Added features are the booster button on deluxe models and Westinghouse "Tri-Snap" thermostats on deluxe and table top models. Direct immersion corox elements and the Westinghouse baffle were retained on all models.

The most advanced development in the line is the booster button, it was reported by M. M. Feaman, manager of the water heater department. The booster was designed to supply added amounts of hot water to meet extra demands.

"Merely by pushing the booster button," Feaman said, "the temperature of the water in the tank is raised from the usual 150 degrees to 170 degrees. When this water is mixed with cold water, the housewife gets 20% more water at 150 degrees and much more usable hot water of lower temperatures."

After the temperature reaches

170°, it was claimed, the regular thermostats take control automatically. A signal light indicates when the booster is in operation.

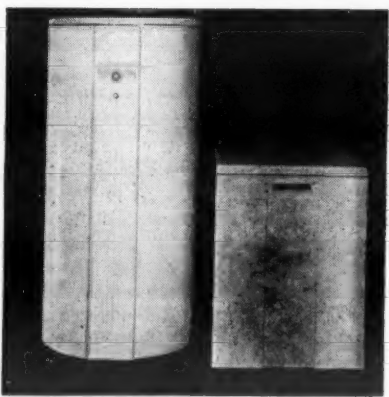
The "Tri-Snap" thermostats are said to continue the features of the "Super-Accurate" thermostat and provide an extra protection against dirt and sudden power surges on the electric supply line.

The 10-year protection policy covering all models was described as one of the first of its kind offered by any manufacturer.

"This policy includes the standard one-year guarantee to replace any part that fails or to replace the complete heater if the tank fails during the first year of operation," Feaman said. "(It) also provides that if the tank fails during the next four years, the complete heater will be replaced at no cost to the consumer other than transportation and installation charges.

"If the tank fails during the final five years of the policy term, the complete heater will be replaced on

New In the Line



The 52-gal. deluxe and 40-gal. table top models in the new Westinghouse electric water heater line.

payment by the owner of a percentage of the original cost, and a new 10-year protection policy will be issued. The percentage to be paid depends upon how long the water heater has been in use."

Another recently-developed Westinghouse feature—the "Safe-Temp"—is made available as an accessory on all heaters in the new lines. The "Safe-Temp," which can be used in place of the temperature relief valve, cuts off all current to the heater if the water temperature in the tank exceeds safe limits, it was pointed out.

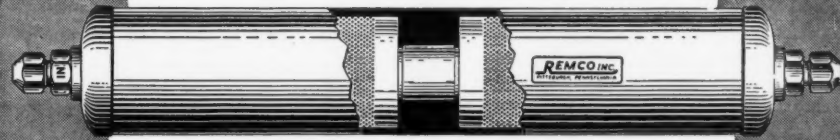
Table top models, formerly available with only the single element, are now available with either the single or double element—as are deluxe models. The same choice is offered with standard models, except in the 30-gal. capacity which comes with the double element only. Leader models are equipped only with the single element.

Summing up the entire new line, which includes models in capacities from 10 to 80 gallons, Feaman noted the streamline design of the new front cover panels (replacing the cover plates on earlier models), the circular steel base on the deluxe, redesigned legs on the standard and leader, and the new nameplates on all models.

REMCO HEAVY-DUTY "CROSS-FLO" DRIER-FILTERS AND FILTERS

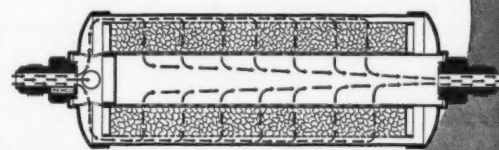


SINGLE CARTRIDGE TYPE—18 cu. in. silica gel; 34 sq. in. coarse-filter surface; 14 sq. in. fine-filter surface—4½ sq. in. effective flow area—sizes ½", ¾", 1", 1½", 2" and 3" SAE flare. (Also with wool filter element instead of drying agent). Rugged and attractively finished. A truly HEAVY-DUTY commercial Drier-Filter.



TANDEM CARTRIDGE TYPE has double silica gel, filter capacity and flow area for larger, dirtier, wetter jobs. Sizes ¾", 1", 1½", 2" and 3" SAE flare. Supplied with 2 drier-filter cartridges, 2 filter cartridges or combination of 1 drier-filter and 1 filter cartridge. Handles big jobs with capacity to spare.

UNIQUE "CROSS-FLO" DESIGN eliminates rolling, dusting and packing of drying agent, which eliminates pressure drop, clogging, poor refrigerant control performance and expensive call backs—permits installation in liquid line, suction line or between refrigerant control and evaporator.



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THERMOBANK

by **KRAMER**

*Keeps Coils Frost-Free
Automatically
at Any Temperature
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LABOR
ATTENTION
ELECTRIC HEATERS
BRINE OR WATER SPRAYS



• See our new developments at the Cleveland Show. Booth's 116 and 118

• Write for Bulletin '16

KRAMER TRENTON CO. Trenton, N.J.



TROUBLE-FREE

Across-the-Line Starters

The Bulletin 709 solenoid starter is a favorite for air conditioning and refrigeration because it is good for millions of operations and does its job day in and day out without attention. The double break, silver alloy contacts never require maintenance. There is only one moving part—no trouble-making pins, pivots, hinges, or flexible conductors. Write for information.

ALLEN-BRADLEY COMPANY
1313 S. First St.,
Milwaukee 4, Wisconsin

BULLETIN 709
Size 2, Bulletin 709 across-the-line solenoid starter with cover removed.

ALLEN-BRADLEY

QUALITY

SOLENOID MOTOR CONTROL

BEAUTY PLUS UTILITY



Larkin refrigeration products are modern proof that engineering beauty can add to functional efficiency. Originator of the Cross Fin Coil, Larkin also produces highest quality in Humi-Temp Forced Convection Units—Bare Tube and Zinc Fused Steel Plate Coils—Evaporative Condensers—Air Conditioning Units—Instantaneous Water Coolers—and other superlative equipment for commercial and industrial refrigeration.

THE WATCH DOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS 519 MEMORIAL DRIVE • S.E. ATLANTA • GEORGIA

One of a series from

The KEY to AIR CONDITIONING

by James J. LaSalvia

This instalment concludes this section devoted to the Refrigeration Cycle as employed in air conditioning. Next week the author will take up the problem of selecting fans.

Refrigeration Cycle (Cont.)

REFRIGERANTS

There are many refrigerants used in various types of compressors and for various types of refrigeration systems. The most used are the following:

- "Freon" ("F-12.")
- Ammonia.
- Sulphur dioxide.
- Carbon dioxide.

e. Methyl chloride.

f. Ethyl chloride.

g. Dichlorotetrafluoroethane.

The refrigerant mostly used today for air conditioning work is what is known as "Freon" or "F-12." "Freon" or "F-12" is the short name for dichlorodifluoromethane. This refrigerant is used mostly because of its non-toxic and non-inflammable properties at ordinary temperatures.

Table 1—Properties of Refrigerants

Kinds of Refrigerants	Critical Pressure at Lbs.	Critical Temp. at °F.	Corresponding Temperatures and Pressures								Formula
			Lbs. at 0°	Lbs. at 20°	Lbs. at 40°	Lbs. at 60°	Lbs. at 85°	Lbs. at 100°	Lbs. at 120°	Lbs. at 140°	
"Freon-12"	582	233°	9.2	21.1	37.0	57.7	91.7	116.9	157.1	205.5	CCl ₂ F ₂
Ammonia	1,651	271°	15.7	33.5	58.6	92.9	151.7	197.2	271.7	364.4	NH ₃
Carbon Dioxide	1,071	87.8°	293.9	407.3	550.7	729.5	1,012.3				CO ₂
Methyl Chloride	969	289°	4.1	14.1	28.1	46.9	79.4	104.4	139.3	185.3	CH ₃ Cl
Sulphur Dioxide	1,141.5	315°	8.9	2.5	12.4	26.2	50.6	69.8	106.2	143.9	SO ₂
Ethyl Chloride	784	361°	21.6	16.1	8.0	1.8	11.9	20.1			C ₂ H ₅ Cl

Air Conditioning Parking Garage Poses Problems

KANSAS CITY, Mo. — Applying temperature control to a semi-open air structure sounds like Buck Rogers stuff, requiring the wand of a magician as well as the skill of a competent engineer. Nevertheless air conditioning has been installed satisfactorily in a local garage and parking station where the problem of large volumes of both warm and cold air from outside the building has been solved.

Exhausting of monoxide gas fumes from the garage's five floor levels is accomplished through a 7 x 8 ft. ventilating shaft, which runs the full height of the building which is located at Tenth St. and Baltimore Ave. in the heart of the downtown district.

Although the building is now in use as a parking lot, serving chiefly the tenants in the Board of Trade building across the street, who usually sign leases for office space which includes use of the car storage facilities, the exhaust fans have not yet been installed in the ventilating shaft. This is because Joseph A. Bruening, builder and owner of the garage is withholding a decision as to whether the air should be pushed or pulled out of the shaft to discharge the toxic fumes.

Bruening made extensive studies of many large parking stations through-

"Freon" refrigerant will be referred to exclusively in this text.

Refrigerants in general have about the same efficiency in producing a ton of refrigeration. The major point to look for between these refrigerants is the amount of useful refrigeration which will be produced for a given amount of electrical energy input and amount of water that is used for condensing purposes.

Table 1 shows the properties of the common refrigerants.

(To Be Continued)

Veterans Hospital Plans Call for Conditioning

OMAHA, Neb. — A Veterans Administration hospital to be started here in 1948 at a cost of over \$5,000,000 will include the newest innovations in air conditioning in this type of building. Bids will be taken at the army engineers' district office here Jan. 5, with work to start in March and two years being allowed for completion.

Air conditioning and ventilating equipment will be housed on third floor, along with food storage and refrigerator space. Main body of the hospital will be 11 stories, with three more floors in the tower section rising in the center of the main structure which will be 383 ft. long and 87 ft. wide at the first-floor level, with a setback at the fifth story.

Auxiliary buildings will include a central heating plant, served by railroad trackage, and designed for coal. Alternate bids will be taken, however, for gas and oil heating as a standby. The hospital will have 500 beds.

"I'm being bored but you'll be interested"



... in these NEW General Electric Condensing Units

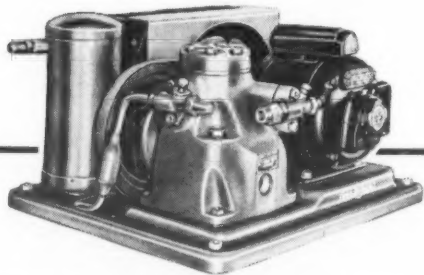
MASS PRODUCED by modern precision methods, the new General Electric Type CW condensing units have the built-in quality to carry on the General Electric tradition for dependability and economy in operation.

New design and new production methods make it possible for General Electric to offer a host of quality features. Many of these features have never before been found in small fractional horsepower units.

NEW COORDINATED DESIGN

This line sounds a new note in the commercial refrigeration field. It is smartly coordinated in design... it covers the range of from 1/6 hp to 2 hp... it includes 8 air-cooled models and 4 water-cooled units. Only three basic compressors are used for the entire line.

Get the details today from your General Electric representative. General Electric Company, Air Conditioning Department, Section 8701, Bloomfield, New Jersey.



EVERY UNIT IN THE NEW GENERAL ELECTRIC TYPE CW CONDENSING UNIT LINE HAS THESE IMPORTANT FEATURES

1. Forced Feed Lubrication
2. Counterbalanced crankshaft
3. Oil sight glass which gives a positive check on operation of lubrication system.
4. Rotating balanced bellows shaft seal.
5. Thin valve plate for high volumetric efficiency and low operating cost.
6. Many interchangeable replacement parts.
7. Lead plated copper gaskets for a better seal and easier servicing.
8. All units tested under actual load conditions before leaving factory.

Most Modern—Most Efficient Most Economical To Use

The "NAT" Suspended GAS UNIT HEATERS

85,000-125,000 and 165,000 BTU Capacity

Available for Natural, Butane or Propane Gases.

Delivery within 3 or 4 days.

Some exclusive territories still available.

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We also manufacture a combination heating and cooling unit, gas fired furnace and the NAT "Self-Contained" Air conditioning unit.



Union Made

THE NAT CORPORATION
2710 McGee Trafficway Kansas City 8, Mo.

GENERAL ELECTRIC
Refrigeration Equipment

Dealers Watch G-E Erie Plant Turn Out 3,400 Refrigerators, 450 Freezers Per Day

Miller Says G-E Will Try To Hold Prices Even In '48, Calls on Dealers To Watch Costs of Distribution

ERIE, Pa.—The first organized gathering of dealers to visit the General Electric refrigeration division factory since the war watched production lines roll at the near capacity rate of 3,400 refrigerators and 450 home freezers per day here in mid-December.

The dealers, 140 strong from all over the state of Michigan, walked about 8 miles in as many hours through four manufacturing buildings and an engineering building to get an idea of what goes on in the approximate 1,700,000 sq. ft. of manufacturing space devoted to the production of General Electric and Hotpoint refrigerators and home freezers.

Louis H. Miller, manager of the refrigeration division, said that he estimated production for the year to reach 600,000 domestic refrigerator units and 75,000 home freezer units. The domestic refrigerator estimate includes General Electric, Hotpoint, and International G-E models.

Miller told the dealers, however, that he can give no assurance that these totals would be reached again in 1948—the critical situation in materials being such an uncertain factor.

Hold Prices Down

He stressed the importance of all elements of the G-E organization—dealers, distributors, and manufacturers—doing their best to keep the price of refrigerators down.

"We can price ourselves right out of the market very easily," he warned.

"We at the factory are going to have to be smart enough to hold our costs down. You as dealers and distributors are going to have to be smart enough to hold your costs of distribution down.

"We as manufacturers are going to try to hold our prices even. We may not be able to do it, but we're going to try."

While visiting the home freezer plant, which occupies three fifths of a building where B-29 automatic turrets were produced at the rate of 3,000 per month during the war, the dealers were shown how they could make snow in their home freezers and were told about a few exclusive manufacturing methods developed and used by General Electric.

Snow making was suggested to them as a sales promotion stunt. It works on the same principle as the G-E developed idea of shooting dry ice into vapor clouds to produce rain or snow.

For purposes of the demonstration, a freezer was lined on the inside with black satin. A temperature of -5° F. was maintained. The demonstrator blew his breath into the box to form

a vapor cloud. Then he dangled a string saturated in liquid air into the vapor cloud.

As the vapor cloud and the liquid air mixed, tiny particles of snow, about 1/60th the size of a normal snow flake, began to form and settle to the bottom of the unit.

Keeping the temperature at below -5° F. was stressed as a condition necessary to the formation of snow or rain.

The new manufacturing techniques used in the manufacture of home freezers includes the brazing of copper tubing to aluminum sheets, the resistance welding of copper and aluminum, and the arc welding of aluminum in the presence of argon gas.

Unusual testing methods include the pulling of a 4 in. vacuum in the freezer cabinet wall to determine the presence of any leaks. It would take an 1/8 in. leak only two weeks in a room with 75% humidity to form a lump of ice the size of a football on the inner cabinet wall, according to Miller.

A-Bomb Tester Detects Leaks

Another device, that was used during the war in atom bomb production, is employed here to test refrigerant lines for leakage into the lines. In this test, the lines are placed in a helium atmosphere and a vacuum is pulled in them. A sample of air within the line is then taken to determine how much helium had penetrated the tubing.

In the engineering laboratories, the dealers witnessed tests being made to check the quality of G-E products. They viewed continuous door slamming tests where an automatic slamming device banged a refrigerator door open and closed unceasingly.

They peeked into heat test rooms where refrigerator units are subjected to 90° and 110° F. temperatures, the latter at 75% humidity, to test for sweating, temperature differentials at various points in the cabinet, and effects on enameling and insulation.

In a laboratory kitchen they were told of food tests and germicidal lamp tests. One engineer mentioned that G-E is testing hamburger at various temperatures in order to determine at which the meat keeps best.

Other plant officials that talked to the dealers included Mike Young, manager of the home freezer department; Brad Hill, manager of manufacturing; and A. J. Redpath, chief of quality control.

The General Electric Supply Corp. of Detroit, headed by Sid Caswell, brought the group to the factory on a special train.

Distributor Will Stage Open House In New Plant

CHICAGO—Open house at the new 100,000 sq. ft. plant of the Sampson Co., large appliance and radio distributor here, will be held on Jan. 8 to acquaint customers and friends with the firm's new location, according to Peter Sampson, president.

The plant, designed specifically to function as a distributing center, is located at 2244 S. Western Ave., in the geographic center of Chicago.

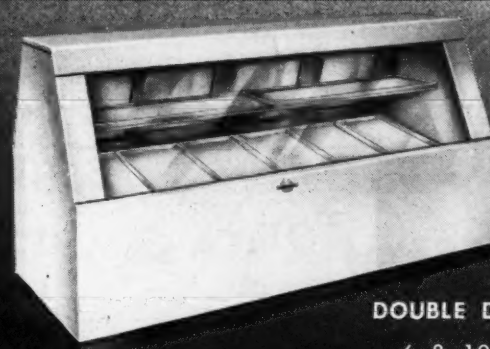
Program for the event has the open house scheduled from 10 a.m. to 5 p.m. with a buffet luncheon served from noon to 3 p.m. Dinner in the Grand Ballroom of the Standard Club here at 7 p.m. is planned for those attending the open house.

Southern Appliances Adds More District Managers

CHARLOTTE, N. C.—An increase in the sales personnel of Southern Appliances, Inc., distributor of major appliances in the Carolinas, has been announced by Calvin D. Mitchell, president.

Kent Prewett of Concord, N. C., will represent the firm in the western counties of both Carolinas; Charles Beneker, Texas, N. C., to be district manager in the Columbia, S. C., area; William McAllen, Charleston, S. C., to be district manager for the Charleston area; Karl E. Nuessner, Greenville, S. C., to be manager in the Asheville, N. C. area; and James C. Crates promoted to sales manager in both Carolinas, with special attention to the Bendix home laundry.

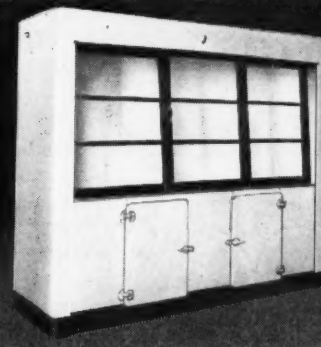
GOLD SEAL proudly offers



DOUBLE DUTY DISPLAY CASE

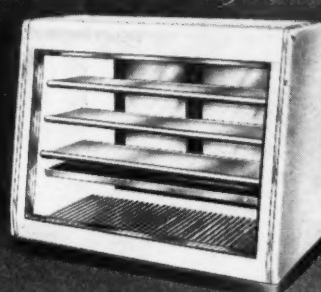
6, 8, 10, and 12 ft. lengths

modern design . . . modern construction



DOUBLE DUTY REFRIGERATED SELF-SERVICE WALL CASE

7, 8 and 10 ft. lengths



FULL VISION DISPLAY CASE

4 and 6 ft. lengths

IMMEDIATE DELIVERY

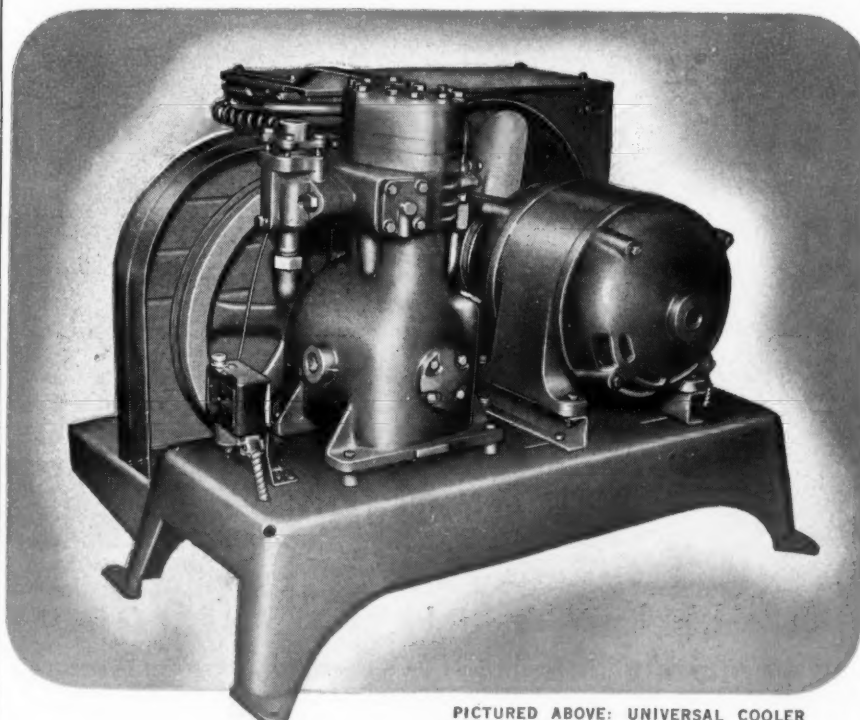


GOLD SEAL REFRIGERATION INC.

4412 Park Avenue

New York 58, N. Y.

IT'S DEPENDABLE !

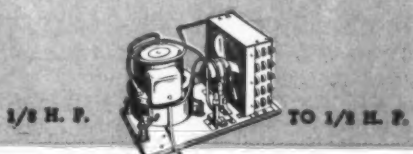


PICTURED ABOVE: UNIVERSAL COOLER 3 H. P. REMOTE CONDENSING UNIT.

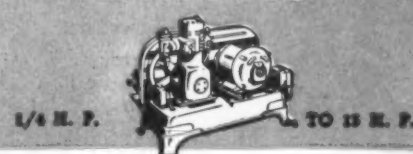
1/4 TO 15 H. P. REMOTE CONDENSING UNITS FOR COMMERCIAL APPLICATIONS

The unit illustrated is designed especially for heavy duty service in commercial refrigeration applications. Precision-built parts are carefully assembled, the unit is dehydrated, thoroughly run in and tested under actual operating conditions. Tell us about your refrigeration problems—let our sales engineers show you how Universal Cooler can solve them.

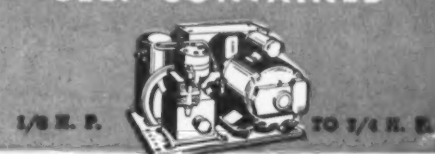
HERMETICS



REMOTES



SELF-CONTAINED



UNIVERSAL COOLER

DIVISION INTERNATIONAL DETROLA CORPORATION

MARION, OHIO • BRANTFORD, ONTARIO

You, Mr. Dealer...

can appreciate these facts about

windo-aire

AMERICA'S FASTEST SELLING WINDOW VENTILATOR

Fact 1

PERFORMANCE: Unconditionally guaranteed for quality, workmanship, and on-the-job performance!

Fact 2

EXCLUSIVE FEATURES: Six exclusive features — Underneath Fresh Air "Pick-up" . . . Two Blower Wheels . . . NO-DRAFT Adjustable Louvers . . . "FIBERGLAS" Dust and Pollen Filters . . . RE-CIRCULATION of Room Air . . . ONLY FOUR INCHES OF VENTILATOR INSIDE THE ROOM.

Fact 3

PRICE: Meets ALL price competition. To show it is to sell it—and, emphatically, that's language your cash register understands!



Wire Now for Unusual Dealer Proposition

LANGTOT INCORPORATED

32 EAST 4th STREET, NEW YORK 3, N. Y.

see your "DETROIT"

WHOLESALE

for
Expansion Valves
Solenoid Valves
Controls

"DETROIT"

2810

DETROIT LUBRICATOR COMPANY General Offices: 5900 TRUMBULL AVENUE
DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION
Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG
"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories
"Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators
EXPORT DEPARTMENT—Box 218, Ridgefield, New Jersey

Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers



Manager, Refrigeration
and Air Conditioning
Division, Perfex Corp.

The Oil Cycle (12)

EFFECT OF COLD LOCATIONS

Suppose that the condensing unit is in a cold basement. Then it becomes increasingly difficult to keep refrigerant out of the oil. The oil in the crankcase, being cold, will absorb a much higher percentage of methyl chloride during the off cycle, so that it has more to lose when the compressor starts and consequently the greater will be the tendency to slug oil.

In fact, in such locations it may be practically impossible to prevent oil-slugging, especially at the beginning of the running cycle.

Such locations are very unfavorable for locating a high-side oil separator, which depends very largely on being hot, for its best efficiency in removing oil from the refrigerant and for feeding back to the compressor, "oil" that contains a minimum of refrigerant.

Mounted in a cold location, a high-side oil separator may do more harm than good. It may help the efficiency of the evaporator but at the expense of the life of the compressor.

KEEP OIL SEPARATOR WARM

Care should, therefore, be taken to follow the instructions of the manufacturer of the high-side oil separator and mount it in a location in which it may retain and take full advantage of the heat of the "hot gas" discharge.

Since it takes some time to warm up, the oil separator is at its best advantage on installations that have comparatively long running periods which minimize the high percentage of refrigerant in the oil at the start of the running cycle and until the discharge warms up and heats the high-side oil separator.

SUMMARY

From the study of the inter-relationship of the oil and a miscible refrigerant several major points will bear repeating:

1. Oil and a miscible refrigerant in liquid form mix readily in all proportions.
2. To separate liquid refrigerant and oil, the refrigerant must be warmed and vaporized out of the oil.
3. Oil absorbs miscible refrigerant in vapor form with which it comes into contact, and the percentage of refrigerant by weight in the mixture resulting from the absorption into the oil, depends upon:

- a. The character of the refrigerant itself.
- b. The temperature of the oil.
- c. The pressure of the vapor on the oil.

4. The presence of refrigerant in the oil materially lowers the viscosity of the oil.

5. In mixtures in which the refrigerant predominates, the presence of oil in the liquid refrigerant causes the boiling point of the refrigerant to increase above that of pure refrigerant.

6. Oil may be separated from refrigerant vapor-bearing oil-mist by "impingement," i.e., causing the vapor to strike baffles on which the oil collects.

7. The open-crankcase compressor used with the refrigerants that are non-miscible with oil, must be provided with oil reservoir, oil check valve and bleeder tube to enable them to be used successfully with oil-miscible refrigerants.

8. The initial, abrupt drop in suction pressure causes oil-slugging at the start of the running cycle but can be prevented by holding up the crankcase pressure and bleeding it off gradually.

9. The low-side or suction oil separator, removes oil from the refrigerant returning from the evaporator and diverts it to the compressor crankcase instead of allowing it to again pass through the compressor cylinder and into the condenser.

The low-side oil separator is located in the suction line near the compressor.

10. The high-side oil separator re-

moves oil from the hot-gas discharge from the compressor and diverts this oil back to the compressor crankcase, thus furnishing refrigerant to the evaporator that is more nearly, but not entirely, free of oil. This enables the evaporator to operate at maximum efficiency.

The high-side oil separator is located in the discharge line from the compressor to the condenser.

ADDING OIL TO COMPRESSOR

We have considered many of the conditions in which oil and refrigerant mix, and the causes and effects of this mixing. We have assumed that there was sufficient oil and refrigerant to make these mixtures possible.

We have learned that we can, with some accuracy, predict what the relative percentage of the oil and refrigerant in mixtures of the two, but we would find it quite difficult to attempt to calculate the amount of oil necessary to make up these mixtures, especially out of the compressor crankcase. Variations of temperatures, pressures and velocities cause variations in the proportions in the oil-refrigerant mixtures.

Obviously, some oil must be added to the crankcase to make up for that lost from the crankcase, because the refrigerant has carried some away with it.

OIL-REFRIGERANT BALANCE

The system soon establishes its own percentages. After an hour or so of operation a new system will establish an approximate balance, so that if the compressor oil level of a new installation is checked, and oil added to the crankcase to make up for that in transit around over the system, the compressor is temporarily safe until it can be again checked the next day for some final readjustment of balance.

If the correct oil level is established at that time, it should operate indefinitely, if there are no leaks of oil, or other causes, such as a shortage of refrigerant, that may upset the normal oil return of the system.

To make certain that no oil leaks or other abnormal conditions have developed, it is well to inspect the new installation a couple of weeks or so after it is installed, to see if the oil level has been maintained.

OTHER MISCIBLE REFRIGERANTS SIMILAR

In the latter part of this series, we have used methyl chloride in our example. We could just as well have used one of the other oil-miscible refrigerants, such as one of the "Frons," propane, etc., although, of course, the proportions of oil and refrigerant in the mixture would have been different and the pressures and temperatures would also have been different.

But the general principles and conclusions would have been the same, for the laws that apply with methyl chloride operate equally in the case of mixtures of oil with the other oil-miscible refrigerants.

FUTURE TRENDS

The tendency in the recent past has been and no doubt in the foreseeable future will continue to be, to synthesize or build up new refrigerants with the characteristics and properties required for specific uses, with the accent on stability and safety. We can expect to see new refrigerants introduced as needs require, now that our scientists are able to juggle the atoms, almost at will, to produce new refrigerants for almost any need.

1ST IN LINE AT THIRST TIME!

OASIS—made by the world's largest maker of electric drinking water coolers—is first in line when it comes to delivering complete thirst relief at low cost. Write for details.

The EBCO Manufacturing Co.
401 W. Town St., Col. 8, Ohio



Members of the Refrigeration Equipment Wholesalers Association

Your refrigeration parts and supply
house in Central New York and
Northern Pennsylvania

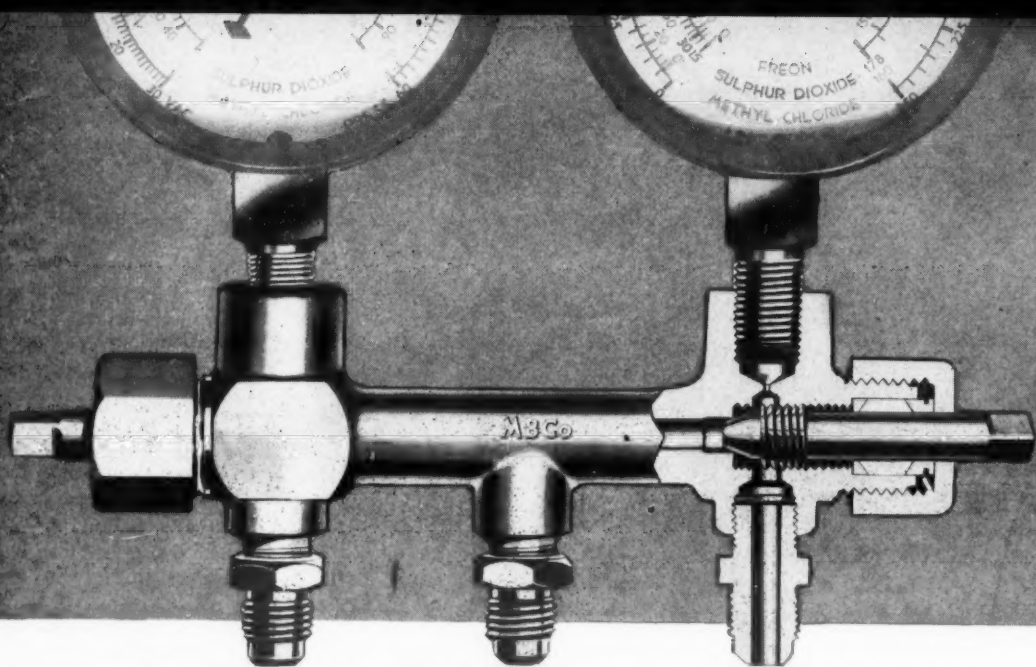
CENTRAL SERVICE SUPPLY

647 S. Warren Street, Syracuse, N. Y.
209-211 Jefferson Ave., Scranton, Pa.

Phones 3-0149 & 3-0140
Phone 3-4000

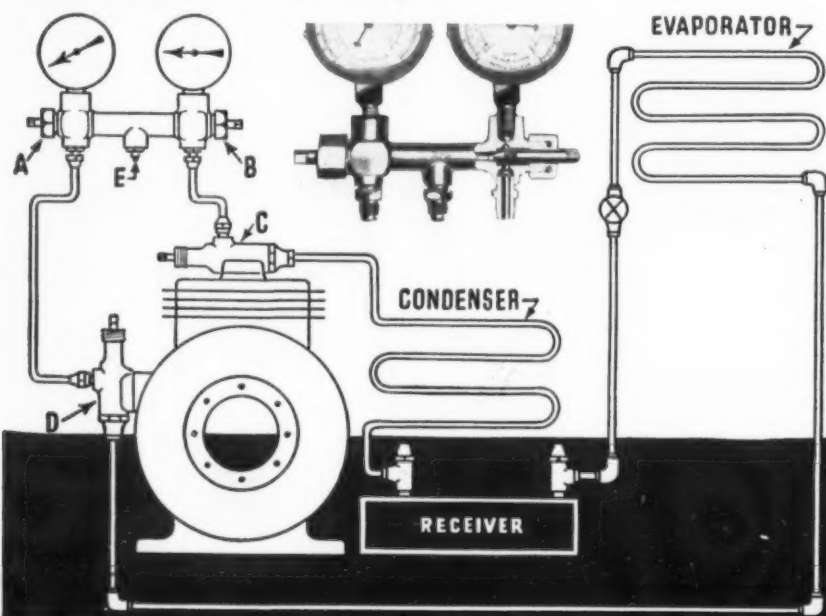
MUELLER BRASS CO. TESTING MANIFOLD

A Handy Tool for the Serviceman



The Mueller Brass Co. Testing Manifold is a service tool. It enables a service man to quickly install pressure gauges to diagnose trouble, and facilitates charging, purging, adding oil, etc.

This device allows the service man to watch the pressure gauges during charging and purging. It saves considerable time on almost any service work that must be done on the compressor.



DIRECTIONS FOR USE

1. To Observe Operating Pressures

Valve A—Closed Valve C—Back Seat Cracked Open
Valve B—Closed Valve D—Back Seat Cracked Open

2. To Charge Refrigerant Through Compressor

Connect Refrigerant Drum to E
Valve A—Open Valve C—Back Seat Cracked Open
Valve B—Closed Valve D—Closed—Front Seated

3. To Purge Receiver

Connect Purge Line to E
Valve A—Closed Valve B—Open
Valve C—Back Seat Cracked Open

4. To Charge Liquid Into High Side

Connect Refrigerant Drum to E
Valve A—Closed Valve B—Open
Valve C—Mid Position

5. To Build Up Pressure in Low Side for Control Setting or to Test for Leaks

Seal E with Seal Cap
Valve A—Open Valve C—Back Seat Cracked Open
Valve B—Open Valve D—Mid Position

6. To Charge Oil Through Compressor

Connect Oil Supply to E
Valve A—Open Valve C—Open—Back Seated
Valve B—Closed Valve D—Closed—Front Seated

MUELLER BRASS CO.
PORT HURON, MICHIGAN

The Way To A Serene Mind

'McCall's' Magazine Shows Homemakers How Freezer Aids In Meal Preparation

NEW YORK CITY—The homemaker who takes full advantage of her home freezer can face meal preparation with a serene mind, Elizabeth Sweeney, Equipment Editor, tells the readers of *McCall's*, in the January issue.

"She buys foods when prices are right, and so can serve out-of-season foods without paying out-of-season prices. She makes up a double batch of food at a time, and freezes half of it for future use. She makes pies and cakes when it is convenient, puts them away in the freezer, and brings them out when they are needed." So states Miss Sweeney in the *McCall's* article.

Preparing frozen food for the table usually calls only for thawing, heating, and serving. Sometimes the thawing and heating are done in one step—as with roasts. And incidentally, the larger, juicier roasts are a good buy even for a small family, if there is a freezer in the home, the article states.

The leftover half can be wrapped in aluminum foil and put in the freezer to be brought out days or a month later. Then it need only be placed on a rack in an open roasting pan, at a low temperature, and it will thaw and heat thoroughly and still keep the same degree of doneness as originally.

Cup cakes may be baked and frosted, then stored to be brought out in an emergency. Freezer users can expect the same delicious fresh flavor, with the texture as light as when baked, and the icing still soft and creamy. Double-crust fruit pies freeze well, the *McCall's* article says, and pictured in the feature is a sour cherry pie—made up and ready to bake—being wrapped for freezing. It also shows the pie baked and ready to serve as fresh and appetizing as the day it was made several weeks before.

Defrosting the home freezer is a light and easy task, necessary only once a year. The whole job takes no more than 15 to 20 minutes. Elec-

tricity does not have to be shut off, nor does the freezer require washing. The frost is merely scraped off the walls of the freezer with a blunt tool like a butter paddle, bottle opener, or wooden spoon.

Food must be kept frozen while the freezer is defrosting, *McCall's* points out, but this is simple, too. If the freezer has two compartments, all food is piled into one while the other is being scraped. Otherwise, a cardboard carton lined with newspapers will do the trick. The frozen packages are packed into the carton, and the papers wrapped around them in thick layers.

Butler Bros. Sees Higher Appliance Sales In '48

CHICAGO—A considerably larger volume of sales in major appliances and radios is anticipated during 1948 by Butler Brothers, national wholesale and retail chain, it has been reported here.

Appliances being distributed through the firm's units here and in Baltimore, Minneapolis, St. Louis, and Dallas include Gibson refrigerators, home freezers, and electric ranges; Presteline electric ranges and water heaters; Crown electric and gas ranges; Apex washing machines, ironers, and cleaners; Horton washing machines and ironers; Voss washing machines, White electric water heaters; and Farnsworth and Stewart-Warner radio and television equipment.

A financial recapitulation for 1947 showed the firm's wholesale division in the red, but its retail outlets far enough in the black to put the firm's over-all operations in the black. Substantial excess profits tax credits are expected to help.

The wholesale division suffered from heavy markdowns made last spring when retailers staged a buyers strike, company officials indicated.

Little Helper



The little Crosley pictured above recently joined Brass & Copper Sales Co.'s car fleet of two jeeps.

Brass & Copper Sales Co. Enlarges Eng. Dept.

ST. LOUIS—In announcing that Brass & Copper Sales Co. here recently moved into much enlarged office and warehouse quarters, H. H. Hubbell reported that the Refrigeration Supplies Division has greatly expanded its engineering department.

The department offers the services of its engineers in checking requirements for new refrigeration and air conditioning installations and for remodeling existing ones. Earlier this year, two new engineers were added to the department.

The company has augmented its car fleet of two jeeps with a new Crosley.

Cordis, York Veteran, Joins Occidental As Gen. Mgr.

NOGALES, Ariz.—Sam L. Cordis, who was associated with York Corp. in various capacities for 20 years, has joined Occidental Electric Co. here as general manager, it was announced by Andrew Kux, owner.

Kux also announced addition to the Occidental plant of a machine shop to fabricate certain component parts of the firm's industrial refrigeration equipment.

Until recently, Cordis was assistant manager of York Corp.'s International Division in New York City. Earlier, he served York as a sales engineer, manager of the Seattle, Wash., branch, and director of extraneous war work at the York, Pa., factory.

Since 1935, Occidental has been engaged in the design, sale, erection, and servicing of commercial and industrial air conditioning and refrigeration equipment and all types of hydraulic, electrical, and internal combustion machinery.

Occidental sells "Ocelco" refrigeration and air conditioning equipment from 5 hp. up (both "Freon" and ammonia) and a line of "Ocelco" turbine, centrifugal, and industrial pumps and internal combustion engines. It is also a jobber for Jack & Heintz fractional horsepower motors and "Freon-12" condensing units.

A COMPREHENSIVE LINE

Cutler-Hammer Refrigeration Replacement Control

The Cutler-Hammer line of Refrigeration Replacement Control is unusually comprehensive and complete. One unit alone, the *Universal* unit, will handle 60% of the repairman's needs. In rare cases where exact replacement control must be furnished, that item also will be found in the Cutler-Hammer line, individually packed, clearly labeled, complete with dial plate, mounting screws, trim washers and instructions for mounting, and range and differential adjustments.

The Cutler-Hammer Line of Refrigeration Replacement Controls is the product of more than 50 years of fundamental control specialization . . . another reason why outstanding refrigeration wholesalers recommend it and alert service organizations from coast to coast feature and use it. . . .



CUTLER-HAMMER, Inc., 1362 St. Paul Ave., Milwaukee 1, Wis.

This One Universal unit alone covers 60% of all needs.

Bul. 9521N9

Adjustable Mounting Brackets
Maximum Mounting Centers . . . 4-3/16
Minimum Mounting Centers . . . 2-3/16

Adjustable Cutout Feature—Differential can be increased 4 degrees by turning indicator in "Hi" direction and decreased 4 degrees by turning in "Lo" direction.

Adjustable Range—Turning screw clockwise lowers settings and counter-clockwise raises settings.

Operating knob can be adjusted to meet various evaporator scale settings. New knob is ideal for varying shield thicknesses. Makes this control adaptable to wider range of single dial replacement jobs where overload is not required in unit.



DOMESTIC, SEMI-COMMERCIAL AND COMMERCIAL CONTROL

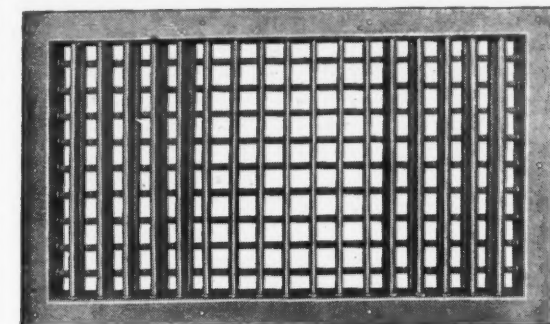
In the Heart OF DETROIT
FACING GRAND CIRCUS PARK

The Tuller, a modern hotel for those who want the best! Convenient to Offices, Theaters, and Shops. Friendly, courteous service and real Hotel Comfort. The Tuller Coffee Shop or Cafeteria for your Dining Pleasure at modest prices. It pays to stay at Hotel Tuller.

VISIT OUR COCKTAIL LOUNGE ONE OF DETROIT'S FINEST

800 ROOMS \$275 WITH BATH FROM

HOTEL TULLER
RICHARD C. HODGES, Mgr



ALTON AIR SUPPLY GRILLES

TYPE "R" GRILLE
IMMEDIATE DELIVERY . . .

IN ALL HEIGHT AND WIDTH COMBINATIONS

Alton Grilles give you even distribution, uniform velocity, minimized resistance and noise elimination. Attractively designed units that harmonize with modern construction . . . tough all-metal welded casings for flush mounting in wall or duct. Each "tear drop" designed blade, individually adjustable for 4-way direction control.

"Specially designed for Refrigerated Air Conditioning"

WRITE TODAY FOR COMPLETE INFORMATION FOLDER AND PRICES

ALTON MANUFACTURING CO.

Cooling and Ventilating Equipment

1112 ROSS AVENUE • DALLAS 2, TEXAS • PHONE RIVERSIDE 3491

DISTRIBUTORS WANTED

for

ROYAL DRY BEVERAGE COOLERS

Incorporating the following features:

Rust-proof Stainless Steel Interiors—Silver Soldered Peerless Fin Coils—Delco Blowers—Sliding Hard Rubber Doors—3" Fiberglass Sealed Insulation.

IMMEDIATE DELIVERY IN 4, 6, and 8 FOOT LENGTHS

Write
or
Wire
ROYAL COOLER SALES CO.
4322 Clayton Ave.
St. Louis 10, Mo.

Telephone
JE 4374

BENBAR VERTICAL the FOOD FREEZER with shelves

- 1/3 H. P. SEALED UNITS
- BAKED ENAMEL FINISH
- REFRIGERATED SHELF PLATES FOR POSITIVE QUICK FREEZING
- TWO SIZES: 14 CU. FT. AND 17 CU. FT.

Here's a stand-up freezer that really measures up to every housewife's desire! She'll like stowing 600-700 lbs. of food on the large, easy-to-reach, quick-freezing shelves and in the deep-well storage space for bulkier foods. And she'll want the extra quality of BENBAR's 4" fiberglass insulation — the 3 step protective door, and the expert engineering that guarantees fast, efficient freezing! Remember, too — the BENBAR Vertical has 2 section construction to permit easy installation in any room or basement.



IT'S THE PREFERRED TYPE FREEZER!

BENBAR's quick, easy accessibility is a must with most housewives.

NO BENDING

NO DIGGING

NO GROPING

BENBAR's modern design saves time — and energy!



SOME DEALERSHIPS ARE STILL AVAILABLE
AUG. G. BARKOW MFG. CO.
2723 S. 31st St. Milwaukee 7, Wis.



WILSON REFRIGERATION, INC.

- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC.
SMYRNA, DELAWARE

We Manufacture Only Food Conservators

Our entire time is devoted to the manufacture, research and development of them. Write for particulars.

Master Manufacturing Corp.

121 Main St. Sioux City 4, Iowa
1,000,000 MASTER FOOD CONSERVATORS IN USE

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies. Out of his experience embracing all types of advertising and merchandising he brings his counsel to the small businessman who must plan his own advertising and promotional efforts.

By James D. Woolf

Put Your Personality Into Your Advertising

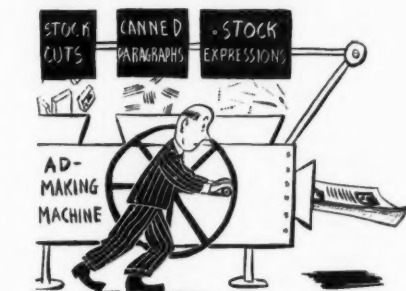
Recently I saw in my local newspaper an advertisement that was repeated four times, once on page 2, once on page 3, and twice on page 5. It was a stock ad supplied in mat form by a manufacturer of flat silverware. Four competing retail jewelers ran it simultaneously, adding nothing of their personality to it but their signatures at the bottom.

Maybe this was a fine thing for the manufacturer, but I can't see what it did for the stores. It seems to me that every retailer should strive for distinction in his advertising.

BE YOUR OWN AD MAN

He should seek to reflect in his ads something of his personality. He should try to develop a style that is uniquely his own. The character of his advertising should be so different that people will not confuse it with the advertising of his competitors.

Retailers generally, especially the



smaller advertisers, rely too much on ready-made stuff. They reach into the grab bag, pull out some stock cuts and canned paragraphs, mix 'em together—and, presto, they have an ad!

Unless you have really expert advertising help, I urge that you try your own hand at writing your advertising. You won't find it so hard as you think. Nobody knows your business—feels as deeply about it—as you do.

You have ideas about your store.

It's your baby. You have convictions about why people should patronize you. Give those ideas expression in what you write, and the result will be advertising that is distinctively your own.

Following are a few suggestions that may help you.

KEEP IT SIMPLE

One day I watched a rather poorly dressed woman examine an electric iron in a hardware store. At last she put it down but made no comment.

"But, madam," urged the young salesgirl, "this device is indispensable."

"In that case," mumbled the woman, "I'll look down the street for something cheaper."

Indispensable was neither indispensable nor exact—and a sale was lost when the right word might have saved it.

This is no doubt an extreme case. But big words do confuse people. In any event, simple words are faster. For example, the words *Up* and *Down* on an elevator have instant meaning. But change those little words to *Ascend* and *Descend* and see what happens!

The safest rule is to write the way people talk. Remember that only two out of 10 Americans past 25 have an education beyond sixth grade! Write to them in the simple, homely, easy way you talk to them over the counter. This way what you write will not only be better understood. It will also have the ring of sincerity and truth.

KEEP IT SPECIFIC

Specific words are more effective than general words. Compare *material* with *nylon*, *cotton*, *silk*, or *wool*. Compare *metal* with *aluminum*, *copper*, *tin*, or *brass*. Compare *green* with *olive-green*, *grass-green*, *emerald-green*, or *bottle-green*.

Advertising is crowded with empty, meaningless words—words that paint no pictures—such as *beautiful*, *delicious*, *satisfying*, *exciting*, *delightful*. For example, the following sentence makes no vivid impression on the reader:

"Kreme Macaroni is delicious, very rich, very tender and light." But this sentence paints a vivid picture:

"Kreme Macaroni! As tender as the tips of fresh asparagus, as light as fluffy little popovers, as rich and smooth as new creamed potatoes."

KEEP IT FRIENDLY

One of the primary jobs, of your advertising is that of creating a friendly public attitude.

I believe in friendly, gracious advertising. Copy that is too insistent, too aggressive and too assertive often antagonizes readers. Here are some examples, selected at random from my morning newspaper, of how not to say it:

"You are very foolish to think you are economizing when you—"

"No wise housewife can possibly afford to pass up this opportunity to—"

"If you let another day go by without seeing this new washer, you will make a mistake that you will regret—"

"If you are a discriminating shopper and alert to real values, then how can you fail to—"

Pleasant, friendly advertising never admonishes people, never scolds them, never argues with them, never hints that they are suckers because they don't come in and buy.

KEEP IT RESTRAINED

There is power of persuasion in understatement. You weaken rather than strengthen your copy with such worn-out blockbusters as *amazing*, *astounding*, *stupendous*, *extraordinary*, *remarkable*, *marvelous*.

One of the finest pieces of writing you ever read is Lincoln's immortal



Gettysburg Address. Old Abe used only 269 words all told—and among them there was not a single superlative. And he used a mere 17 adjectives, all of them mild little words seldom used by ad men.

In advertising, bombastic words are a mighty weak substitute for ideas.

KEEP TALKING QUIETLY

The retail merchant had pretty tough going during the war. He had to sell a lot of shoddy merchandise because that was all he could get. America had to win the war, and scarcities were one of the prices that had to be paid.

The consumer is still a little wary. She is afraid that quality isn't yet up to standard, and prices being what they are, she tends to wait.

What she needs is reassurance, and here is where your advertising can help. Talk up the quality of your merchandise. Talk value. Talk *guaranteed* satisfaction, your money-back policy. Make it clear that what you say in your ads are promises in print to the buyer.

Today, more than ever, the consumer wants and must have her money's worth. This theme deserves emphasis in your advertising.

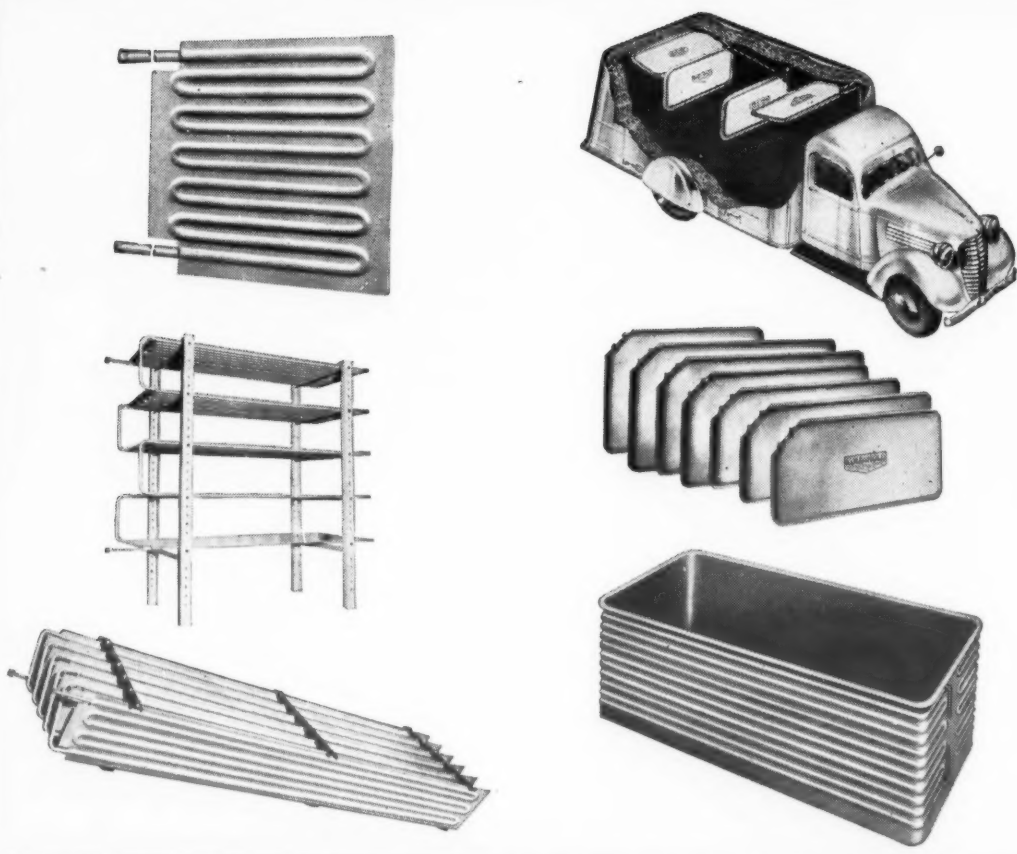
KEEP IT SENSIBLE

Let me say again what has been said in this place before. There is too much nonsense in advertising.

There is one advertiser in my town, an automobile dealer, whose advertising consists of silly cartoon strips, one in the paper each day. There is never a word in the strips about his cars or his business. What he gets for his money is his name at the bottom of the cartoons. Over the counter you talk sense to your customers. Do the same in your advertising.

It isn't up to you to make the newspaper reader laugh. The paper prints regular features for that.

KOLD-HOLD Design opens the door to Refrigeration Profits



KOLD-HOLD "Quick Action" Serpentine Plates have a multitude of applications and combinations... all profitable to the user. Used separately, in banks, in plate stands, or as cabinet liners, they assure you the following advantages.

1. Easy installation.
2. Maximum prime surface.
3. No possibility of short circuiting the flow of refrigerant, which flows in one continuous pass from inlet to outlet.
4. Highest rate of plate heat acceptance.
5. Oil logging positively prevented.
6. Minimum pressure drop.
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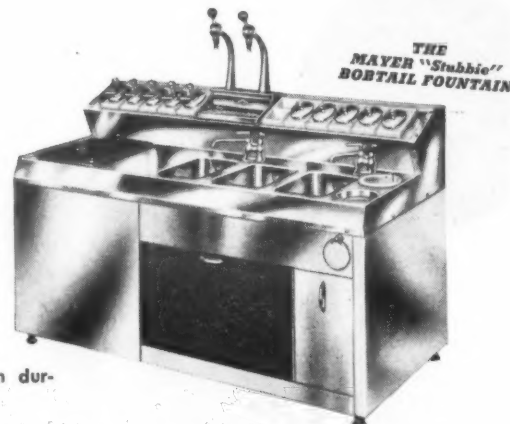
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G-E Reduces Prices--

(Concluded from Page 1, Column 5)
for fluorescent lamps and timers, specialty transformers, small capacitors, time switches, and thermostatic appliance controls.

No price reductions in lamps are being announced at present, Wilson said. He explained that many types of lamps produced by the company are already selling at prices lower than those in effect in 1940.

Specific reductions on individual items are being announced to distributors and dealers through regular company channels.

The average reduction is somewhat more than 5% and affects products representing close to a billion dollars worth of business annually at the consumer level, according to G-E. The new prices, which became effective Jan. 1, are expected by the company to save consumers approximately \$50,000,000 in 1948.

"We expect to maintain these prices provided no further increase occurs in our own labor costs or in prices of components and materials which we purchase in so great a measure from others, and provided there is no further distortion of the material situation through rationing or new allocation," Wilson declared.

"We hope to be able to extend such action to other product lines as similar action is taken by our suppliers and other manufacturers."

Wilson claimed G-E prices have been kept relatively low since the war, in comparison with other prices. Since 1940, and to September, 1947, he pointed out, the company's prices as a whole have been increased only 38% by contrast with 86% for all manufactured products and 175% for farm products, according to Government figures.

At the same time, principal cost elements in the company's products increased substantially more than its own prices, it was stressed. For example, average hourly earnings are up 73% and metals 57%, G-E said.

With respect to capital goods prices, Wilson said that G-E now has on hand, and will produce in 1948, a record peacetime backlog of orders which were taken in prior years and will be delivered at prices below current G-E levels.

General Electric's apparatus department, producers of most of the company's capital goods, has already announced earlier this month a new price protection policy providing for a price variation of 20% up or down, if any were put into effect.

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Frigidaire Changes--

(Concluded from Page 1, Column 3)
formed in a continuous, smoothly flowing design. A massive appearance is gained by this forming as well as increased strength and durability, say Frigidaire engineers. To eliminate twisting and sagging, the back of the cabinet is ribbed with a "Double X" design.

For additional strength, there is a rolled flange of steel—1½ in. wide—that is part of the top and sides. This provides a flat surface against which the door can close, assuring a tight seal to keep cold in and heat out.

For opening and closing the refrigerator door, an attractive, sturdy latch has been developed. Simple and mounted completely on the outside of the door, it affords no path through which heat can leak into the refrigerator.

FLAT ON THE TOP

The top of each cabinet is wide and flat, providing a convenient shelf when loading or unloading the refrigerator.

Another convenient feature on each model is the leveling glides mounted near the base of each front corner of the cabinet. On a sloping or uneven floor, these glides are adjusted so that the refrigerator will stand level on the surface.

For storing frozen foods and home freezing of fresh foods, a new and bigger Super-Freezer is located in the top of the food compartment. Total capacity ranges from 12 to 36 pounds, again depending on the model, large enough for an entire week's supply of frozen foods. The refrigerant flows through both walls, bottom, and shelf providing extra fast freezing for ice cubes and desserts. Also, rapid freezing is aided by the compartment's brass and copper construction.

ICE CUBE TRAY DATA

Within each freezer are Quickcube ice trays, offering an ice making capacity of from 4 to 12 pounds or 28 to 84 cubes. An exclusive automatic tray release quickly separates each tray from the freezer while the Quickcube release pops out cubes with a minimum of effort.

A handy Multi-Purpose tray for freezing and storing meats is also part of the large Super-Freezer and may be removed for additional shelf storage space. It is also useful for defrosting by filling the tray with hot water, and placing it in the bottom of the freezer. This melts the freezer frost and speeds the overall defrosting operation.

NEW DEFROST CYCLE

Conveniently located on the right top interior of the food storage compartment is a 10-setting cold-control dial. The degree of cold is easily selected by turning the dial to numbers ranging from one to ten while two additional settings for "Defrost" and "Off" provide a complete cycle of operation. The cold-control also contains a safety-cycle defrosting feature. All items are removed from the freezer and cold storage tray, the cold-control set on "Defrost" and the frost slowly melts while the mechanism runs sufficiently to keep the cabinet cold. For extended periods of inoperation such as vacations, the cold-control is turned to "off" and the cabinet door left open.

For storing an extra supply of ice cubes or packaged foods, a large glass storage tray, with handles at both ends, is placed just beneath the Super-Freezer. There is acid-resisting porcelain in the bottom of the food compartment.

Detroit Lubricator--

(Concluded from Page 1, Column 4)
It does not apply to previously repaired valves.

To manufacturers who guarantee their product for one year or more, the company will extend its 90-day guarantee to one year, with defective valves being returned to the Detroit factory for repair. The guarantee on repaired valves is limited to 90 days and the total repairable period to three years.

It was pointed out that while the new policy represents a departure from what has been accepted practice on guarantees in the refrigeration field, in other service parts fields such as automotive and radio the 90-day guarantee has been a long-established practice.

Harvester Models--

(Concluded from Page 1, Column 2)
expected the first units to arrive about Jan. 15.

International Harvester refrigerators will feature roominess inside with large shelf capacity and convenient arrangement plus a smartly streamlined exterior, according to the manufacturer.

He listed eight basic features that are common to all models.

The standard features are the "Easy-Do" temperature control, "Tight Wad" hermetically sealed unit with five-year warranty, automatic interior light, permanent insulation of spun glass fibers, all-steel lifetime construction, genuine Dulux enamel exterior, porcelain interior with rounded corners, and a built-in leveler that permits the refrigerator to stand squarely on uneven floor surfaces.

MANY SPECIAL FEATURES

Four special features of the standard model are a "Stowaway" frozen food compartment with a 35-lb. capacity and four ice trays, three shelves, a "TattleTale" defrost indicator, and a positive, gentle-action, self-closing "Magnalatch."

In addition to these, the deluxe model boasts a crisper that holds nearly 13 quarts of fresh vegetables and fruits, an exclusive "Foldaway" shelf for butter and leftovers, a removable shelf in the frozen food compartment, a 1½ bushel unrefrigerated pantry bin, a "Frigidrawer" that will hold 13½ lbs. of meat, improved ice trays with tilt-out cube dividers and lever to break out cubes, whether two or a trayful, removable steel shelves, and a soil resistant black base, recessed for standing room.

The super deluxe model combines all these features plus an additional crisper drawer and "Foldaway" shelf, a special adjustable shelf to accommodate foods or containers of different heights, a "Tele-Temp" thermometer located on the inside of the door, shelves of stainless steel, and a chromium plated handle on the pantry bin which is an extension of the door handle.

The super deluxe unit is said to have 16.3 sq. ft. of shelf space.

PRICES NOT DISCLOSED

International Harvester announced no prices on its refrigerators, saying only that they would be competitively priced.

The company stated that these models would be supported by an extensive advertising campaign in national magazines, newspapers, and radio, in addition to displays and promotion materials at point of sale.

Kaye, of the New York distributor organization, said that International Harvester would bring out a 10-cu. ft. model refrigerator later in the year.

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Home Freezers Bring East & West Together



C. M. Lee (center), manager of Lee & Fletcher in Singapore, Malaya; his attractive daughter, Cristine, and Jay Alvarez, export manager of Tyler Fixture Corp., pose smilingly in Tyler headquarters as they discuss Lee's plans to introduce the HarderFreeze line of home freezers in his country. According to Lee, his firm will be the first to feature home freezers in Singapore. The Lees visited Tyler's administrative offices at Niles, Mich., during a tour of the States to purchase equipment and conferred with Tyler officials on home freezing and frozen foods. They also visited the Tyler plant in Cobleskill, N. Y. Miss Lee, who studied in the States at Washington Missionary College, was one of the last persons to leave Singapore before the Japanese invasion.

Report On Puerto Rico, Dominican Republic

'Too Many Refrigeration Firms in P.R.; Too High Import Duties Imposed by D.R.'

Editor's Note: Following is the sixth in a series of field reports analyzing the Latin American market for refrigeration and air conditioning equipment. With this article, Mr. Friedman continues the series started by his partner, Philip H. Berritt.

By Harry D. Friedman, American Refrigeration Export Co.

There is absolutely no shortage of refrigeration equipment of any kind in Puerto Rico. Almost every American manufacturer of refrigeration and air conditioning equipment is represented by an exclusive distributor.

I found two instances where a refrigeration distributor was handling two competitive lines in the same establishment and selling these lines through the same sales organizations. I doubt very much if the respective manufacturers knew this condition existed.

My opinion, as well as the opinion of other people with whom I spoke, is that there are too many refrigeration firms in Puerto Rico in proportion to the population and the demand. The opinion was also expressed that within a year or two, at the very most, many firms in the business that are not on solid ground will fall by the wayside.

Many firms that were never in the refrigeration business prior to the war, and some that were not in the business even two years ago, are now handling refrigeration lines. Actually, some of these firms are not equipped to sell refrigeration equipment and render service.

The reason advanced for this condition was that during the war there was no refrigeration equipment exported to the island, and at the termination of the war there was, naturally, a severe shortage of every kind of equipment. Many people with

money accumulated during the war felt that refrigeration was a virgin field and jumped into it.

During the time that export licenses were required, American manufacturers were prohibited, in many cases, from shipping to most foreign markets. But because Puerto Rico is an American possession, no export licenses were required. Therefore, many American manufacturers concentrated on shipping to Puerto Rico.

For approximately a year, almost every ship that entered the harbor of San Juan carried in its holds refrigeration equipment which was sold very quickly. However, now the distributors' orders are beginning to back up and their warehouses are almost completely filled with equipment.

The banks are aware of this situation and have limited their line of

credit to importers. In most cases, the banks require a deposit of 50% before an importer can open a letter of credit. This deposit is either paid to the bank in cash by the importer, or the amount is deducted from his bank balance. Today, many refrigeration importers refuse to open letters of credit and insist upon sight draft shipments.

TIME SALES PREDOMINATE

Almost all refrigeration equipment on the island is sold on a time payment basis. The usual method is for the purchaser to pay between 33 1/3% and 50% of the purchase price in cash and spread the difference out over a period of 12 months. I have been told that many purchasers are late in making their monthly payments and that, too, hampers the distributors, as their money is slow in coming in.

Puerto Rico is valiantly trying to build up its tourist trade. In my opinion, however, it will be a hard job, and I doubt very much if it will ever be successful because of the deplorable lack of decent hotel and recreation facilities.

Considering the small population of the Dominican Republic (there is only one large city, Ciudad Trujillo, the capital) and the limited purchasing power of its people (there are only two classes, the rich and the poor), there is a considerable demand for refrigeration equipment.

However, it is the opinion of some refrigeration distributors, and of the writer, that the government—perhaps unwillingly—is hindering the importation of refrigeration equipment by the terrifically high import duties.

For example, the import duty on display cases, reach-in refrigerators,

air conditioning units, and the like is 70% of the equipment's value. That on ice cream cabinets is 50% of the value. I was told that if duties were lowered, it would be an incentive to import more equipment.

Ice cream is sold in very large quantities in proportion to the population and is dispensed in the same manner as in Cuba—chiefly from pushcarts, horse-drawn vehicles, automobiles, motor-driven scooters, etc.

As in Cuba, people are reluctant to buy because of high prices. They do not wish to part with the dollars which they managed to save.

There is no shortage of dollars. In fact, the country actually has no paper money of its own and uses American dollars for currency.

IMPROVEMENT PROGRAM

The government has undertaken a plan to improve the country and, among other things, is now engaged in building houses for workers. These houses are comparable to some of our low-cost housing projects and are far superior to anything the people have ever lived in.

All over the island, new roads are being built and old roads improved. President Trujillo is building a presidential palace which will be one of the most magnificent buildings in the Caribbean area. In addition, a university is being constructed, as well as hotels, libraries, public parks, etc.

The government is making a strong bid for American tourist trade and has built one of the most magnificent hotels in this hemisphere, the Hotel Jaraque. There are plans for many new hotels and, if the government's efforts are successful, many people think the Republic will become an excellent and much larger market.



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ASHVE Meeting--

(Concluded from Page 1, Column 4)

12:15 Monday with Hugo Rogers, president of the Borough of Manhattan, as the speaker.

Tuesday morning's session will feature papers on air distribution and ductwork, while the afternoon session will be devoted to radiant heating papers.

Three papers are planned for Wednesday morning, to be followed by the heat pump panel discussion Wednesday afternoon. For this the following discussions have been prepared.

"Economic and Technical Aspects of the Heat Pump" by W. E. Johnson; "Heat Pump in an Office Building" by J. Donald Kroeker and R. C. Chewning; "Research Aspects of the Heat Pump" by E. N. Kemler and N. Kulik; "Operating Data on Heat Pump Installations" by M. M. Smith; and "Power to Operate These Heat Pumps" by Walter Herman.

William B. Stout will be the speaker at the annual banquet to be held at 7 p.m. Wednesday.

The final technical session scheduled for Thursday morning will include discussions of "A New Method for Selecting Winter Design Temperatures" by C. M. Humphreys, and "Use of Climatological Data in Heating and Cooling Design" by H. E. Landsberg, after which the new officers of the society will be installed, final business wound up, and the meeting adjourned.

Throughout the convention numerous committee meetings will be held, including the various technical advisory committees.

Walter E. Heibel is general chairman of the committee on arrangements for this meeting, and he will be aided by various committee chairmen: M. C. Giannini, reception; W. M. Heebner, finance; W. A. Swain, banquet; Howard J. Rose, entertainment; C. F. Roth, exposition; H. S. Birkett, sessions; Clifford Strock, publicity, and H. S. Wheller, ladies. Complete program for the meeting follows:

SUNDAY, FEB. 1

1:30 p.m.—Registration. Ballroom.

MONDAY, FEB. 2

9:30 a.m.—Business session. Grand Ballroom.

"A Method of Fire Control" by A. C. Bartlett.

"State Laws Concerning Industrial Exhaust Ventilation" by K. J. Caplan and A. D. Brandt.

12:15 p.m.—Welcome luncheon. Grand Ballroom.

Toastmaster, M. C. Giannini, president of New York chapter, ASHVE. Address by Hugo Rogers, president, Borough of Manhattan.

TUESDAY, FEB. 3

9:30 a.m.—Technical session, Grand Ballroom.

Report of tellers of election.

"Downward Projection of Heated Air" by Linn Helander and C. V. Jakowatz.

"The Discharge of Air from a Long Shot" by Alfred Koestel and G. L. Tuve.

"Friction Equivalents for Round, Square, and Rectangular Ducts" by R. G. Huebscher.

"A Summary of ASHVE Research in Air Distribution and Ventilation" by Cyril Tasker.

2 p.m.—Technical session. Grand Ballroom.

"Measurement of Heat Output of 1 Sq. Ft. of Panel" by R. S. Leigh and R. G. Vanderweil.

"Air Temperature Gradients in a Panel Heated Room" by J. M. Ayres and B. W. Levy.

"The ASHVE Panel Heating Research Program" by G. D. Winans.

"Periodic Heat Transfer at the Inner Surface of a Wall" by H. A. Johnson.

WEDNESDAY, FEB. 4

9:30 a.m.—Technical session. Grand Ballroom.

"Measurements of Solar Heat Transmission Through Flat Glass" by G. V. Parmalee, W. W. Aubele, and R. G. Huebscher.

"Thermal Assessment of the Environment" by D. H. K. Lee.

"An Improved Test Method for Rating Air Filters" by R. S. Farr, W. N. Pauley, and K. A. Crismon, M. D.

"The 1948 Guide" by R. S. Dill.

2 p.m.—Technical session. Grand Ballroom.

Symposium—"The Heat Pump for Year 'Round Air Conditioning."

"Economic and Technical Aspects of the Heat Pump" by W. E. Johnson.

"Heat Pump in an Office Building" by J. Donald Kroeker and R. C. Chewning.

"Research Aspects of the Heat Pump" by E. N. Kemler and N. Kulik.

"Operating Data on Heat Pump Installations" by M. M. Smith.

"Power to Operate These Heat Pumps" by Walter Herman.

7 p.m.—Annual banquet. Grand Ballroom.

Toastmaster, R. H. Carpenter.

"These Human Miracles" by William B. Stout.

THURSDAY, FEB. 5

10 a.m. Technical session. West Ballroom.

"A New Method for Selecting Winter Design Temperatures" by C. M. Humphreys.

"Use of Climatological Data in Heating and Cooling Design" by H. E. Landsberg.

Industry's Biggest Year--

(Concluded from Page 1, Column 3) family. During 1947 the production of freezers under 16 cu. ft. totaled 400,000 units, W. J. Donald of Nema reported, against 150,000 units in 1946, a 167% achievement in expansion—and 1948 is expected to show additional substantial gains.

Contributing heavily to the 1947 appliance volume, he said, was a record volume of electric ranges, which totaled 1,250,000 units, a 92% increase over the 650,000 units produced in 1946 and a 73% increase over 725,000 units in 1941. The 1948 range output is expected to total a million and a half units, a 20% expansion over 1947.

Donald pointed also to the sharp increase in electric water heater production in 1947, which mounted to a million units, 82% over the 550,000 units in 1946.

Allocations Plan--

(Concluded from Page 1, Column 2)

European recovery program in mind, department officials will ask steel producers to provide essential users with a certain percentage of their production, based on their announced capacity.

Though the department will not necessarily try to match specific customers with specific suppliers, it will require steel producers to accept a certain number of government certified orders up to the limit of their allotted percentage of production.

These certified orders will be given to manufacturers making essential items now in short supply because of a lack of steel.

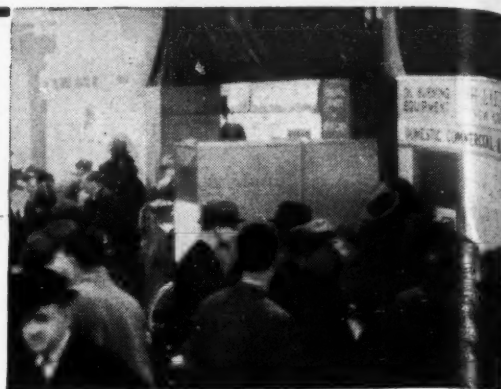
Other manufacturers of products not considered essential will be asked to reduce their steel consumption.

An indication of proportions of this task was given by members of the Commerce department's office of materials distribution, who noted that for the manufacture of freight cars alone, approximately 75 parties would have to sign one agreement. And letters to each of these parties would have to outline his specific share of the agreement.

Commerce department officials point out that the Taft sponsored legislation includes no provisions to protect suppliers from breach of contract suits resulting from the supplier diverting materials because of a government order.

The lack of such a provision is liable to hamper any arrangement made to have suppliers in different areas exchange distant customers for nearby ones to ease the transportation burden, they indicated.

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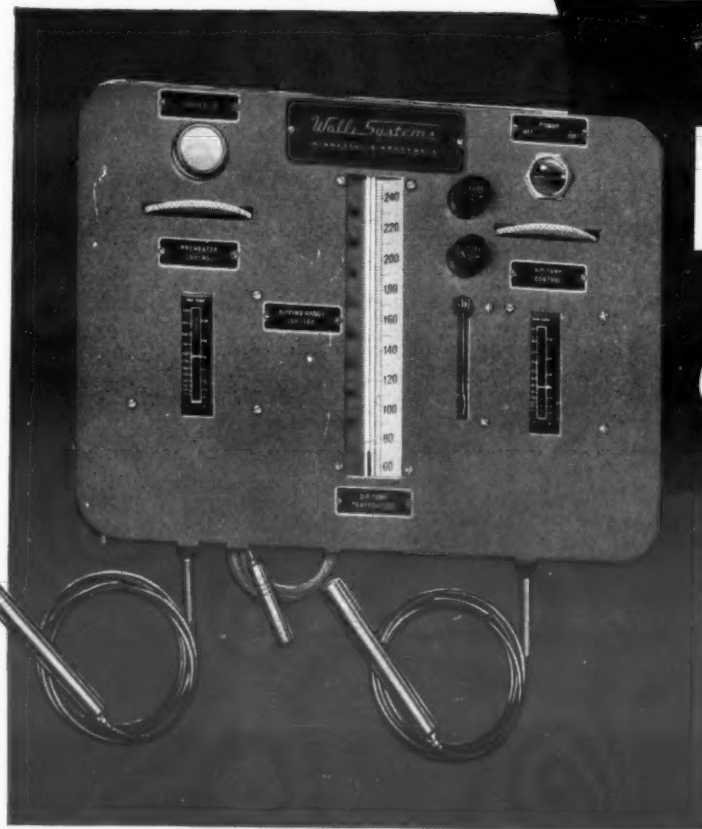
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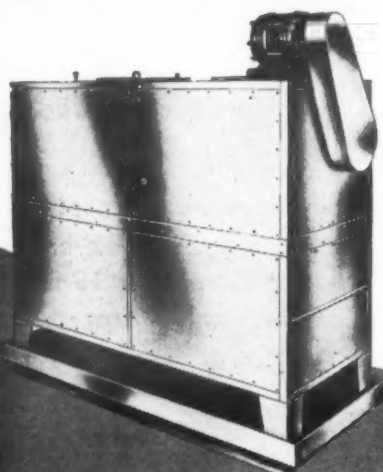
If you're concerned over finding new methods to cut costs and step up production, you'll profit by investigating refrigeration control panels—a development of Minneapolis-Honeywell, the 60 year leader in automatic control.

Refrigeration control panels are designed and made by Honeywell to meet your own individual requirements. The panels simply group all controls for any one of your products into one compact, workable unit. The advantages are many. Inventory items are reduced from several to just one. Materials handling is cut the same way. Production goes up as the number of control installations goes down—

to just one. And time and again, among manufacturers already using Honeywell control panels, the net result has been the same—lower costs and increased production with greater operating efficiency.

The range of applications is broad. Temperature controllers, pressure controllers, thermometers, switches, motor starters, signal lights—all these and others can be combined on Honeywell control panels. Write today for information related to your own specific needs. Address Control Panel Division, Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.

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